THE UNIVERSITY OF ALBERTA

COMPONENTS OF COMMITMENT IN HOSPITAL NURSES

by

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research, for acceptance, a thesis entitled COMPONENTS OF COMMITMENT IN HOSPITAL NURSES submitted by Janet E. Levesque in partial fulfilment of the requirements for the degree of Master of Health Services Administration.

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ABSTRACT

The main purpose of the study was to empirically describe the level and type of commitment among selected groups of nursing personnel employed in hospitals. A concept of commitment was used which included the hypothesized dimensions of commitment to nursing occupation, nursing work, nursing unit, specialty, hospital, nursing peers, physicians, patients, patients' families, and technology. A concept of relative commitment was used to describe the relative level of commitment to persons, nursing tasks and co-ordinative mechanisms pertinent to patient care and also employment areas pertinent to nursing practice. This study was based on the premise that commitment is a contextual variable relevant to the quality of clinical practice.

The unit of analysis was the individual nurse. Nurses from nine areas of clinical nursing practice comprised the study population. These nurses were in pediatric, obstetrical, rehabilitative, intensive care, auxiliary, psychiatric, surgical, medical and acute cancer clinical settings. A total of 564 nurses from 13 Edmonton hospitals was randomly selected to participate.

A 67 item questionnaire was administered to these nurses following a pilot study and it was returned by mail. An overall response rate of 93.1% was obtained. Data analysis consisted of the application of factor analysis, Q technique, and paired comparisons scaling.

Seven orthogonal factors were found to describe commitment to the work setting. These factors or types of commitment were labelled Nursing Unit Peers, Clinical Specialty, Advocacy Role, Long Term Job Continuance, Physicians, Profession, and Patient-Family Involvement. In terms of each commitment type, commitment level was found to vary among nurses grouped by specialty. Through the application of Q technique two categories of nurses were identified on the basis of their underlying similarities in commitment as a whole. These categories appeared to correspond with two aspects of nursing practice known as cure and care. The first category was comprised of surgical, intensive care, pediatric, obstetrical, and psychiatric nurses, the other of rehabilitative, medical, auxiliary, and acute cancer nurses. These categories, however, were not independent. Nursing groups in the first category had elements of commitment in common with nursing groups in the second category. From the application of paired comparisons scaling, differences among the nine specialty groups were described in terms of relative level of commitment to various facets of the nursing job. From a nursing perspective, these differences appear to reflect priorities for patient care as viewed by nurses practicing within specific organizational units in line with sub-unit goals for patient care, medical technologies, and disease specialization. Observed differences in commitment level among nursing groups have potential implications for the design and understanding of hospital structure and functioning, including more effective deployment of manpower resources in staffing practices.

From the perspective of the sociological literature, the seven

factor orthogonal solution represented an initial attempt to unfold the dimensionality of commitment within a particular work setting and provided a degree of empirical evidence for some theoretical underpinnings of commitment discussed in the sociological literature. The results of this research, nevertheless, are primarily limited to the description of commitment of nurses participating in this investigation.

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CHAPTER I

INTRODUCTION

Scope and Objectives

The term "commitment" has been utilized with increasing frequency in the sociological and psychological literatures. Sociologists have used this concept to analyze both individual and organizational behaviour in the investigation of a wide variety of phenomena: religion (Schoenherr & Greeley, 1974), bureaucratic behaviour (Brown, 1969; Downs, 1973; Patchen, 1970), power (Etzioni, 1961; Franklin, 1975; Kakar, 1971; Zaleznik, 1973), unemployment (Kaplon & Tausky, 1972), deviance (Turner, 1972), and social disruption and conflict (Coser & Rakoff, 1971; Haller & Rosenmayr, 1971; Safilios-Rothchild, 1971; Weiss, et al., 1976). The majority of these investigations have used commitment as an independent variable in attempting to explain behaviour and as a descriptive characteristic to mark attitudes and behaviours held by particular individuals and groups. From the literature reviewed to date, the major focus of interest has been on commitment of the employee to the organization.

Empirical research focusing on commitment of nurses in hospitals has been sparce and noncomprehensive. The aim in this research was to identify and apply dimensions of commitment delineated by sociological, psychological, and nursing researchers in the investigation of commitment among nursing personnel providing bedside care to patients in hospitals. The specific research objectives were (a) to empirically describe types

of commitment among nursing personnel in a variety of hospital settings, and (b) to explore the extent to which similarities and differences exist among selected groups of nurses (by nursing specialty) in relation to type and level of commitment. The aim of this investigation was not to describe the entire commitment system of nurses but rather to describe nurses' commitment in terms of the organizational context in which they work. In this regard, Salancik states that far too little empirical work has been done concerning the nature of commitment to jobs (1977, p. 20).

Practical Importance of the Study

The analysis of commitment to a certain person, a group of people, or organizational entities is a major topic of concern in the systematic study of organizations (Lee, 1971, p. 213). Commitment is generally thought to be a desirable state of employees and is frequently related to positive outcomes such as increased productivity, improved quality of product, and adaptive innovation.

Nurses constitute a major labour component in hospitals, both in terms of numbers and the cost of providing patient care services. Nurses are also the most strategically located subgroup within hospitals mediating the health goals of the organization (Georgopoulos & Mann, 1962, pp. 300-312). Commitment in nurses would appear desirable, then, to ensure quality of patient care and support of the system which provides for patient services. Further, identification and description of nurses' commitment could serve as a means of better understanding hospital structure and functioning.

Theoretically, commitment must be assessed in light of those

factors to which nurses are committed and whether or not the type and level of commitment is appropriate for success (Salancik, 1977, p. 1) in the particular nursing specialty. Assuming that commitment does affect the quality of patient care rendered, identification of type and level of commitment in nurses becomes an important contextual variable in relation to determining if not controlling the quality of clinical nursing practice.

Contingent upon an adequate description of commitment, delineation of nurses' commitment may have important implications for nurse administrators. First, knowledge of commitment peculiar to specific groups of nurses could aid in more effective deployment of manpower resources in staffing practices (Bowden, 1967, p. 250; Riegler, 1968, p. 48). Given a requirement for a nurse in a particular specialty area, a staff member could be selected on a more rational basis through matching type and level of commitment necessary for patient care success in the specialty with the staff member's type and level of commitment inferred from experiential background. Second, an understanding of how commitment varies with specialization area could promote more meaningful analyses of negative system outcomes. In this regard, commitment is thought to be an important factor in reducing turnover and absenteeism rates (Telly, et al., 1971), both of which run high among staff nurses employed in hospitals (Gaynor & Berry, 1977, p. 17).

Knowledge of nurses' commitment in terms of area of clinical specialization also has important implications for nurse educators. For example, educators could utilize identified types and levels of commitment to re-evaluate their ideas concerning "ideal" commitment in the work

setting. Course curriculums might then incorporate recognized differences between what does and should exist in types and level of commitment to better prepare nursing students for the nursing job.

Theoretical Significance of the Study

Theoretical interest in the conceptualization of commitment is found primarily in the psychological and sociological literature. However, there has been little formal analysis of the concept of commitment and few endeavours utilizing commitment as a focal point in organizational research "even though it is central to the understanding of both human motivation and system maintenance" (Kanter, 1968, p. 499). As a result, the meaning of commitment has been ambiguous and the complexity of its nature ignored (Becker, 1960; Buchanan, 1974; Stebbins, 1970). Some researchers have viewed commitment as a dependent variable with psychological, structural, processual, and contextual determinants; others have viewed commitment as an independent variable having personal and organizational outcomes. While most researchers have explicitly or implicitly recognized the multidimensionality of commitment, they have operationally defined commitment in unidimensional terms and have concentrated their research efforts on the identification of determinants and consequences of commitment. There is need on a theoretical basis, then, for research which will improve the understanding of the conceptualization and measurement of commitment as a multidimensional concept. Once this step is achieved, multivariate research can proceed on a systematic and more comprehensive basis with determinant and outcome variables being selected in relation to dimensions of the concept of commitment.

Major Concepts of Commitment Discussed by Sociological Theorists

The purpose of this section is to relate the main concepts of commitment described by sociological theorists in order to provide a foundation for defining the concept of commitment for this investigation.

One of the first papers focusing on the phenomenon of commitment is Howard Becker's "Notes on the concept of commitment" (1960). Becker sets out to specify the characteristics of being committed independent of the behavioural outcome of commitment, the consistency of individual behaviour (1960, p. 33). "Side-bets" or investments are posed as important factors in the development of commitment, acting over time to constrain individuals' future courses of action. Examples of such investments are payment for services rendered, status, pension benefits, and friendliness of co-workers. The greater the perceived investments and consequent penalties associated with leaving a particular line of activity, such as a job or occupation, the more difficult disengagement becomes. Becker believes that many of these investments are structurally arranged by the organization or society in which one works and that a full understanding of commitment necessitates an analysis of value systems which influence perceptions of investments. That values may vary among subcultural groups (regional, ethnic, and social class) and the variants within these groups (such as age, and sex) as well as more limited subcultures (such as occupational groups) directs the need for an understanding and control of these factors in empirical investigations of commitment (1960, p. 39). To summarize, Becker views commitment as a common sense rational mechanism of constraint of behaviour through

previously placed side-bets. His conceptualization of commitment helps explain the common observation that people sometimes continue in a line of activity for reasons other than the activity itself. Becker's work is noteworthy, over and above his explication of the commitment concept, for providing the direct impetus behind numerous investigations (Alutto et al., 1972; Ritzer & Trice, 1969, 1970; Shoemaker et al., 1977; Stebbins, 1970).

Etzioni's (1961) theory of compliance has grounded within it some theoretical underpinnings of commitment. Etzioni believes that organizations must be capable of recruiting and maintaining employees to survive. One means of assuring the potential capacity for these survival functions is fostering and maintaining the positive involvement of employees in the organization. Viewing involvement as a continuum, Etzioni interprets "positive involvement" as commitment and "negative involvement" as alienation. In discussing the relationship of commitment to health, Antonovsky also utilizes this conceptualization of the alienation-commitment continuum (1979, p. 116). Etzioni delineates three types of positive involvement differing in intensity, foci of orientation, processes in development, and the role of persons in relationships. "Calculative" involvement is lowest in intensity and rational self interest is the focus of orientation with people acting as means to each other. "Pure moral" and "social" involvement are both intensive modes of commitment. Social commitments rest on the sensitivity of individuals to pressures of primary groups. In social relationships people act as ends to each other. Pure moral commitments involve identification with authority and internalization of norms with relationships geared to the

needs of the social collectivity (1961, pp. 10-11). The usefulness of Etzioni's conceptualization of positive involvement can be seen in its generality. That is,

> classifications of involvement can be applied to the orientation of actors in all social units and to all kinds of objects. Hence, the definitions . . . are not limited to organizations, but are applicable to orientations in general. (1961, p. 10)

One of the most interesting developments of the commitment concept may be found in the work of Kanter (1968). Kanter views commitment as a consideration which arises at the interface of organizational requisites and individuals, generally referring to the "willingness of social actors to give their energy and loyalty to social systems" (1968, p. 499).

> Commitment may be defined as the process through which individual interests become attached to the carrying out of socially organized patterns of behavior which are seen as fulfilling those interests, as expressing the nature and needs of the person. (1968, p. 500)

Kanter conceptualizes three commitment types arising from the intersection of organizational and personal aspects of commitment (see Figure 1). In a comprehensive approach, Kanter appears to successfully link three major social system problems: the retaining of individuals within a system (continuance), group cohesiveness, and social control, with three differing intensities of orientations of individuals: cognitive, cathetic, and evaluative, respectively.

Cognitive--continuance commitment refers to the degree to which individuals believe they should continue to participate in a social system, and more specifically, a particular organizational role. Kanter identifies sacrifice and investment as two processes promoting cognitive--

continuance commitment. This type of commitment is somewhat similar to Becker's side-bet theory of commitment (1960) in that both involve the accrual of investments and continuance in a line of activity.

Types of Personal Orientations	Types of Social System Problems		
	Continuance	Cohesion	Control
Cognitive	X		
Cathetic		X	
Evaluative			X

Figure 1: Three types of commitment conceptualized by Kanter (1968, p. 500).

Cathetic--cohesive commitment refers to the degree to which an individual feels emotionally bound to particular sets or subsets of individuals in the social system. Kanter prefers to define this commitment type not in terms of sociability but in terms of the ability of the group to withstand disruptive forces external to it. This commitment type develops through identification with others, with gratifications extending from involvement with the group as a whole (1968, p. 500). Cohesive commitment appears to parallel Etzioni's description of social commitment (1961, p. 10).

Evaluative--control commitment refers to the extent to which an individual accepts and agrees with the norms of a system. This commitment type appears to resemble Etzioni's concept of pure-moral commitment involving internalization of norms (1961, p. 11).

Kanter concludes her conceptualization of commitment with three thought provoking ideas. First, it is suggested that commitment may

follow a developmental path similar to the development of morality in children. Second, systems with all three types of commitment should have fewer problems in system maintenance than those without. Third, there are social arrangements inherent in the way the system is organized which if utilized will promote each type of commitment.

The commitment typology Kanter conceptualizes appears highly generative in the study of commitment within and across a variety of social systems. Whether Kanter's typology is equally relevant to informal, less structured organizations as opposed to organizations with more formal structures is unknown.

The parallelisms between Kanter's and Etzioni's conceptualizations are noteworthy. Kanter, like Etzioni, views commitment as a necessary determinant of organizational survival. Although both recognize the importance of commitment in system maintenance and the necessary element of human motivation for each, Kanter is more explicit in attempting to integrate these phenomena. Inherent in all three preceding theoretical positions is commitment as a process, characterized by positive orientations toward an object, with minimal requirements for individuals being their physical involvement in the system. It is this latter point which distinguishes the conceptualizations of commitment as seen by these authors from the concept of loyalty described by Hirschman (1970).

In the preceding conceptualizations of commitment the question of how people choose between commitments, given limited time and energy, is not given adequate recognition. A recent article by Marks (1977) is directed at this question. He considers commitment a decisive factor in

whether or not people experience both time and energy as limited resources, characterized by the desire to carry out or be involved in an activity in light of its assessed importance. An emphasis is placed on the dynamic nature of commitments, in terms of shifting number and range. Four elements of commitment are identified: spontaneous enjoyment of the activity, spontaneous loyalty to one or more role partners, anticipation of perceived rewards, and avoidance of perceived punishment. Marks suggests that a strong presence of any one element may act to generate or maintain commitment, although when all four elements concomitently support a given activity the commitment level for that activity will be higher (1977, p. 929).

Marks sets forth a typology of commitment systems: Type I, a system of equally positive commitments; Type II, a system of equally negative commitments; and Type III, a system of over- and under-commitments in which one or more activities or roles are perceived as better, more important, or worthy of one's efforts. Both over- and under-commitments in this latter system have positive valances, their difference lies in the intensity of the valence (1977, p. 930). Marks maintains that the experience of scarce time and energy occurs in Type III systems. Over-commitments become omnipresent in that time and energy for under-commitments, no matter how "valued", are always constrained in that there are "better" or "more important" things to do (1977, p. 931). Implicit in his concept of commitment, then, is the notion of selecting priorities among choices of activity. Commitment to one object or set of performances is relative to the intensity and range of commitment to other objects or activities within a system of commitments. Although individual commitment

systems may be a function of personal idiosyncracies, Marks' concern is with the extent to which such systems are culturally patterned for specific societies and subgroups within societies (1977, p. 930).

Although Marks is the first researcher to explicitly link the concepts of time, energy, and commitment, the notion of commitment relative to a system of commitments has been implied by other researchers. For instance, Dubin, et al. (1975) investigated the central life interest of blue collar workers and found that interest in work was relative to interests in other areas of the life spectrum. Salancik recognized that individuals are committed to more than one group or organization and hypothesized that the choice of one role or commitment over another mirrors the relative salience of each (1977, p. 29). Salancik suggests that any characteristic of a job situation which increases a person's felt responsibility will result in increased commitment levels (p. 16). In considering problems peculiar to working women, Safilios-Rothschild notes that commitment to work is determined by "the relative distribution of interest, time, energy, and emotional investment in work in relation to other life sectors and notably to family life" (1971, p. 492). Etzioni acknowledges the "differential involvement" of lower participants in social organizations, in that one may be highly committed to organizational goals but not to the organization as an administrative unit (1961, p. 304).

Several nonempirical writings have lent support to one or more of the preceding major theoretical positions although conceptualization of commitment was not the central focus of interest in these studies. Two types of commitment are described in a similar manner by several of

these researchers (Goffman, 1961; Johnson, 1973; Perrow, 1972; Stebbins, 1970; Zaleznik, 1973). For example, Perrow distinguishes between individuals with "limited" and "full" commitment to organizations in the following manner. Limited commitment stems from the tool view of organizations as "limited-purpose rational instruments" whereas full commitment involves the embracing of organizational values and goals (1972, p. 192). Goffman describes two types of bonds which tie the individual to social entities: obligations or commitments, entailing alternatives foregone, work to be done, service rendered, etc., and attachments, requiring warmth and feelings of belongingness, identification, and emotional investments (1961, p. 173). Further, Stebbins delineates two types of commitment: value, involving attachments and identification with objects and continuance, involving forced behaviour as a result of penalties associated with withdrawal from a specific position (1970, p. 526). Along similar lines, Johnson distinguishes between two commitment types: personal, referring to strong personal dedication to carry out a line of action, and behavioural, referring to constraint behaviour in that the individual perceives he must continue a line of action (1973, p. 395). Zaleznik distinguishes between compliance and commitment of individuals in organizations. He points out that commitment is an expression of strong motivation resulting in either adoptive or resistive behaviour, whereas compliance is an attitude of acceptance (1973, p. 286). Although several researchers recognize that too much commitment to certain beliefs or actions can result in organizational costs such as resistance to change (Gouldner, 1960, p. 469; Salancik, 1977, p. 37; Zaleznik, 1973, p. 395), the problems potentially

generated from too much rather than too little commitment have been too infrequently addressed by researchers.

A model of commitment to roles was set forth by Schoenherr and Greeley describing the commitment process as one which binds a person to a position in a social system to the extent that a favourable net balance of rewards and costs results from maintaining the position (1974, p. 407). Major elements of the model are continuance, socially organized patterns of action, a desirable net balance, rewards and costs, and an awareness of feasible alternatives with the decision to continue in the role (1974, p. 410). The elements in this model are not unlike the characteristics of commitment delineated by Becker (1960). Abramson, et al. (1958), like Becker, liken commitment to sequences of action with penalties and costs so arranged as to guarantee the activity. These authors believe that commitment can be understood as the heightened probability or predictability of an action occurring or in terms of the ordering of the likelihood of actions (1958, p. 16).

Downs (1973), on the other hand, views commitment in terms of attachments and loyalties. He makes two important points: the first being that overall commitment to an object explains little concerning the source of that commitment; second, that commitment becomes a significant factor in determining behaviour (p. 204). Coser and Rokoff (1971) concur with Downs in defining commitment as the positive involvement of internal dispositions. These authors distinguish between commitment to work and persons engaged in work (p. 547). Lastly, Turner (1972) views commitment only in terms of norms and values and thus makes no allowance for Becker's concept of side-bets (1960) and similarly Etzioni's calculative

commitment (1968), and Kanter's continuance commitment (1968).

Concept of Commitment for This Investigation

In this investigation commitment was conceptualized from the viewpoint of individual nurses in the context of the work environment and included selected aspects of commitment described by Becker (1960), Etzioni (1961), Kanter (1968), and Marks (1977).

Commitment is defined as a process (Becker, 1960; Etzioni, 1961; Kanter, 1968) through which individual interests become attached to intangible objects (Etzioni, 1961, p. 9) resulting in patterns of behaviour which are seen as fulfilling those interests by expressing the person's nature and needs (Kanter, 1968, p. 500). The varying intensity of attachments to several objects in terms of their relative importance is considered descriptive of relative commitment (Marks, 1977, p. 929).

Two approaches were considered possible in analysing the dimensionality of commitment. First, the type of attachment bond between the individual and object of commitment could be analysed. The type of attachment referring to the evaluative, emotive, or cognitive processes involved in the development of commitment. Second, the component of commitment or objects toward which commitment is directed could be analysed. Due to the more tangible nature of the latter and, accordingly, a greater likelihood of achieving accurate measurement, commitment in the work place was analysed on the basis of its components. In this investigation commitment in the work place comprised ten specific components: commitment to peers, physicians, patients, families of patients, hospital,

clinical specialty, nursing unit, nursing work, nursing occupation, and technology. Four dimensions were selected to represent relative commitment in the work place: relative commitment to persons pertinent to the nursing unit, employment areas pertinent to nursing practice, nursing tasks pertinent to patient care, and co-ordinative mechanisms pertinent to patient care. The rationale for selection of these particular commitment components will be provided in the literature review to follow.

Limitations

A number of methodological limitations are pertinent to this investigation. Types of commitment empirically investigated were confined to the organizational setting. That is, commitment measures were designed to measure the nature of commitment in the context of the organization, not to measure and describe the entire commitment system of nurses. As factor structures are primarily a function of the population, set of variables and form of factor solution (in terms of rotation and number of factors), the use of more comprehensive measures of commitment in future research would likely result in different factor structures than found in this study. Similarly, as all measures of commitment were specifically developed for nursing personnel concerned with the daily provision of bedside care to patients, these measures are not transferable in future research to employees in nursing functioning in alternative capacities or employees in other work settings.

Randomized sampling of both nursing units and nursing personnel normally would permit generalizability of findings to the population of Edmonton nurses in the nine clinical specialty areas. However, the

subjective component inherent in the interpretation of factor solutions serves to confine the description of commitment factors to the population of nurses participating in the study. Furthermore, factors are biased estimates of those in the population as they are derived from a correlation matrix based on sample size rather than degrees of freedom.

The commitment construct lacks clear demarcation of its limits. Consequently the boundaries of commitment in relation to other organizational and personal variables are not identified. No attempt was made in this research to ascertain the potential of the measures to discriminate between commitment and other variables.

The identification and description of an ideal level of commitment in nurses and the impact of commitment on patient outcome were considered beyond the bounds of this study. It is plausible that too little or too much commitment may result in negative system outcomes such as absenteeism and resistence to change respectively whereas ideal commitment likely results in positive patient outcomes such as a return to maximum level of functioning and compliance with treatment regimes.

Measures of commitment were susceptible to error as commitment was inferred from the attitudes and opinions of nursing personnel. The aim was to measure attitudinal as opposed to behavioural commitment. No assumptions were made concerning the relationship between attitudes and behavioural outcomes. In addition, lack of control over the data collection process, in that questionnaires were to be left with respondents, could have interferred with obtaining true responses.

In large part, the limitations of the study stem from the inability to provide conclusive evidence of a reasonable degree of

validity of the measures used. This inability, a priori, was primarily due to the fact that an independent criterion measure of nurses' commitment was not known to exist.

Organization

This researcher has attempted to develop an empirical measure of commitment of nursing personnel providing bedside patient care services within hospitals. Chapter II provides the empirical basis for the conceptualization of commitment utilized in this study. The operationalization of commitment concepts in the literature is described and the nature of commitment of nurses employed in hospital organizations delineated. The methodology of this study is explained in chapter III. Specifically, concept formalization, sample design, instrument development, data collection, and data analysis procedures are discussed. Chapter IV focuses on the results and interpretation of this empirical investigation. Chapter V discusses the research results in terms of the commitment literature and construct validity of the commitment measures used. Major conclusions with implications for further research are then delineated.

CHAPTER II

RELEVANT LITERATURE

The aims in reviewing the literature relevant to this investigation were to report the predominant approaches to the operationalization of commitment components in the sociological literature and to identify and describe components of commitment for nurses employed in hospitals. In the empirical literature review emphasis is placed on identifying aspects of commitment operationalized and types of measures used. The unit of analysis, sample selected, and reliability and validity of the measures are described when reported. The empirical review is followed by a discussion of nursing personnel in the context of hospital organizations with special emphasis on organizational factors exerting influence on the role and status of the nurse. Based upon the preceding literature, components of commitment for nurses employed in hospitals are identified and described. Suggestive evidence of similarities and differences in commitment among nursing personnel on the basis of organizational context is then discussed.

An Overview of the Empirical Literature on Commitment

This section includes research investigations concerned not only with "commitment," but with "identification" and "involvement," given

that these latter concepts are described by theorists to be intrinsic to commitment. Literature viewed more from a psychological orientation such as that dealing with motivation was considered outside the boundaries of this review.

Industrial Organizations

Porter and associates (1976) investigated the relationship between organizational commitment and turnover among a sample of 212 managerial trainees in a large merchandising company. An instrument designed to measure organizational commitment was mailed to the trainees eight times over a 15 month period with an overall return rate of 75.6%. Of 156 trainees followed for the entire 15 month period, 37 subsequently formed a turnover sample. The instrument comprised 15 indicators of organizational commitment. These indicators were based on the supposition that highly committed members demonstrate (a) a strong desire to remain a part of the organization, (b) a belief and acceptance of organizational goals and values, and (c) a willingness to exert high levels of effort for the organization. For example, various measures of commitment were loyalty to the organization, concern about the fate of the organization, willingness to recommend the organization as a work place, and willingness to exert extra effort on the organization's behalf. Each item was measured on a seven point agreement-disagreement Likert scale. The aggregate score of the 15 items represented an individual's organizational commitment. Instrument reliability based on the alpha coefficient was .80-.90. This would seem to point to the unidimensionality of commitment to organization as measured by these

researchers. The results indicated that trainees who voluntarily left the company subsequent to the initial 15 month period exhibited a decline in organizational commitment prior to termination of employment (1976, p. 88).

The questionnaire developed by Porter et al. (1976) was used by Steers (1977) to test a preliminary model of the antecedents and consequences of employee commitment to the organization. The study was carried out among two diverse random samples: 382 hospital employees holding a wide variety of technical and nontechnical positions and 199 scientists and engineers employed in an independent research laboratory. Questionnaires were returned with a high response rate of 85.5%. For both groups, personal and job characteristics and work experiences were found to influence commitment (1977, p. 53). In addition, the intent and desire to remain part of the organization was found closely associated with commitment (p. 54). The internal consistency of this instrument based on the alpha coefficient for the sample studied was .88 (p. 50). The high degree of internal consistency of this questionnaire developed by Porter et al. (1976) and used by Steers strongly suggests the unidimensionality of commitment to organization based on the measures used.

In an effort to investigate the relationship between a central life interest in work and organizational commitment, Dubin and associates (1975) administered Porter's (1976) measure of organizational commitment to a nonrandom sample of 1,014 blue collar and clerical workers. High levels of commitment to the employing organization were found associated with a central life interest in work. Dubin concluded from his findings that in addition to committed and alienated workers, individuals exist

who are characterized by a flexible central life interest in work in that they are able to adjust to any behavioural setting by varying their commitment to it in accordance with organizational features attractive to them (1975, p. 421). No information about the reliability and validity of the measures was reported.

Based upon Etzioni's theory of compliance (1961), Franklin investigated the relationships among organizational power, employee commitment to organization, and employee task performance. The sample consisted of 265 randomly selected blue and white collar workers in six organizations. Data were collected through interviews using a 64 item questionnaire. Commitment to organization was operationally defined as a three dimensional concept and measured in terms of the approval or disapproval of items on three scales designed to measure the willingness to uphold organizational norms, support organizational goals, and remain with the organization (1975, p. 739). Although commitment was categorized as high, moderate, or none in the reporting of all results, the method of scoring and producing these categories was not reported. In addition, the reliability and validity of the measures were not reported. In light of these limitations, Franklin found a positive relationship between normative power and organizational commitment of workers (p. 751).

Patchen (1970) conducted an investigation concerning job involvement, organizational identification, and the determinants of each. Organizational identification referred to (a) feelings of solidarity with the organization, (b) support of the organization, and (c) perceptions of shared characteristics with other members (p. 155). Indicators of feelings of solidarity were, for example, feelings of being a part of the

organization and labelling oneself as an organizational member. Support of the organization was indicated through voluntary work overtime, speaking up in defense of the organization, expressing enthusiasm for organizational goals, remaining with the organization in the face of attractive job alternatives, and identification with others in the organization. Shared characteristics referred to perceptions of similarities of the individual with a group in terms of common goals, standards of conduct, performances, and demographic characteristics (1970, pp. 156-157). These measures of organizational identification were contained in a questionnaire administered to individuals in 90 work groups of a public utility. The aggregate score for a work group represented their index of organizational identification. Some evidence of validity of the measures was provided through expected correlations between outcomes or criterion behaviours (leaving the organization, for instance) and the organizational identification index (p. 242).

On examining correlates of scientists' organizational identification Lee (1971) utilized Patchen's (1970) concept of identification as a basis for measurement. Lee viewed "belongingness" in terms of common goals shared with others, "loyalty" in terms of attitudes and behaviours supportive of the organization, and "shared characteristics" in terms of individuals and others in the organization (p. 215). Data were collected through questionnaires administered to 170 scientific employees. The questionnaire contained 41 personal, organizational, and environmental variables rated on a seven point scale. Further information concerning questionnaire development and reliability and validity estimates was not provided. Factor analysis was done, resulting in five orthogonal factors

labelled as follows: general needs factor, satisfaction with opportunities for advancement, general maturity, demonstrated value of the organization, and professional maturity. No estimates of total variance explained were provided. When each subject's organizational identification score entered into the factor analysis it was found to load highly (> .5) with only the scientists' general needs satisfaction factor (p. 219).

Buchanan (1974) concentrated his research efforts on describing the relative importance of various personal and organizational experiences on organizational commitment. The sample comprised 279 randomly selected business and government managers from eight different organizations. Commitment was viewed as an affective attachment to the goals and values of an organization, to one's role in relation to these goals and values, and to the organization itself, apart from its instrumental worth. Methodologically, commitment consisted of three components, each measured with an independent series of items. The three components were identification--the goals and values of the organization adopted as one's own, involvement--absorption in the activities of one's work role, and loyalty--feelings of attachment and affection for the organization (1974, p. 533). Both identification and job involvement were measured with previously used and specially constructed questionnaire scales, namely, those of Hall et al. (1970) and Lodahl and Kejner (1965), respectively. The combined commitment scale reliability estimate using Cronbach's alpha was .94 while the reliability range for the three scales separately was .84 to .91 (p. 539). Although Buchanan visualized commitment as a multidimensional phenomenon, his description of the empirical analysis of

items is suggestive of its unidimensionality at least in so far as the measures used. Several commitment relevant work experiences were identified through data analysis. In addition, the results suggested that the influence potential of particular work experiences on commitment varied significantly with tenure (p. 544).

Gouldner reported a factor analytic study designed to distinguish different dimensions of organizational commitment. Two major dimensions were operationalized: cosmopolitan integration--"the degree to which the individual is active in and feels himself a part of the varying levels of a particular organization", and organizational introjection--"the degree to which the individual's 'ideal' self image includes a number of organizationally approved qualities and values" (1960, p. 467). Data collection was through interviews with 60 randomly selected members of a voluntary organization. Four oblique factors were found: cosmopolitan integration, organizational introjection, cross sectional membership, and political party responsibility (p. 483). The total explained variance in responses in addition to estimates of reliability and validity were not discussed.

Antonovsky and Antonovsky (1974) investigated commitment of kibbutz members to their community. Commitment was defined as positive involvement in the society. For each member this meant expressions of loyalty and identification with the goals and norms of the community in addition to experiencing self identify derived from being a part of the society (p. 304). These authors founded their measurement of commitment on two commitment types described by Kanter (1968): cohesion and control commitment. Cohesion commitment was operationally defined as feeling at

home in and part of the community, and as the community being part of the individual. Control commitment was operationalized as a value or ideological orientation in which the community was evaluated as "good," a strong desire existed to uphold societal norms, and these norms were evaluated as better than those of other societies (p. 306). Indicators of cohesion and control commitment were contained in a pretested seven item closed questionnaire which was administered to a convenience sample of 76 kibbutz members during personal interviews. In general, the results indicated that measures of the two commitment types were related to overall social need satisfaction (p. 303). The reliability and validity of the measures were neither reported nor discussed.

Ritzer and Trice (1969) tested the structural aspects of Becker's side-bet hypothesis on a random sample of 623 personnel managers. Both organizational and professional commitment were examined. The concept of commitment was operationalized by asking respondents whether they would leave their present employment for a related job in a similar agency and a job in a new field if given no increase, a moderate increase, or a large increase in pay, status, freedom, responsibility, and the opportunity to get ahead. Responses to each question resulted in a score of one to five with an index of commitment obtained by summing all scores. Questionnaire development was based on 100 pretest interviews. A 66.2% response rate to mailed questionnaires resulted. This rate of response raises questions as to the uniqueness of the nonrespondents and perhaps face validity of the questionnaire in the eyes of respondents. Several structural variables such as age, education, marital state, and job mobility were controlled. Ritzer and Trice found only pay to be a

significant factor in organizational commitment and therefore rejected the side-bet hypothesis in favour of an alternative conception of commitment emphasizing social-psychological factors. However, as most relationships were in predicted directions it may have been that the index of commitment, obtained by summing all scores, was insufficiently sensitive. Ritzer and Trice concluded that structural factors act as intervening variables after psychological commitment is attained, these structural factors serving to increase or decrease commitment (1969, p. 478). In relation to professionals in organizations, Ritzer and Trice hypothesized that professionals are committed to their occupation on entry to the organization. However, if rewards are not forthcoming from the occupation for professional orientations and activity, the individual will turn to the organization in an attempt to be committed to something in the work arena. This viewpoint appears to emphasize an either-or orientation to the presence of occupational and organizational commitment.

Shoemaker and associates (1977) tried to shed further light on Becker's side-bet theory of organizational and occupational commitment. Commitment was operationalized by asking respondents if they would consider leaving (responses were: definitely yes, undecided, and definitely no) their present job for a similar job in another agency (organizational commitment) or another field (occupational commitment) if offered a slight increase in pay, status and responsibility, friendliness of co-workers, and opportunities to get ahead (p. 600). Data were collected through interviews and self administered questionnaires given to a random sample of 120 forest and park rangers. Structural variables controlled included age, education, length of service, income, etc., as

well as the attitudinal variables of job satisfaction and employee feelings of solidarity. The findings partially supported the importance of structural and psychological factors as predictors of organizational and occupational commitment (p. 602). Shoemaker et al. suggested that future studies should address themselves to the focus of commitment so that the indexing of relative levels of organizational and occupational commitment across occupational categories could begin (p. 603).

Linkages between investments, involvements, and organizational and professional commitment were further investigated by Sheldon (1971). Commitment was viewed as a positive evaluation of the organization and profession and an intent to work toward organizational and professional goals (p. 144). Commitment to the organization was operationalized as endorsement of three statements: the desire to contribute to a laboratory project rather than publishing in a professional journal, the desire to continue employment in the organization permanently rather than moving on to a job in another organization in the future, and a positive evaluation of the laboratory. Commitment to the profession was operationalized as the importance of having a chance to contribute to scientific knowledge, having freedom to carry out research, and having the chance to do basic research. Data were gathered through a survey instrument administered to 136 scientists and engineers. The questionnaire return rate was 75%. Social involvements and the investments of age, length of service, and position were controlled. Findings indicated that investments built up over time tended to produce organizational commitment (p. 148). Professional commitment was found to increase with work experience and social involvements were found to increase the commitment

of professionals to the organization, reinforcing the effect of investments and mitigating against potential negative effects from high professional commitment (p. 148).

Although a large part of empirical research on commitment in industrial organizations has focused on the organization and profession, very little appears to have been done in the area of commitment to work. One study was found concerned with describing women's commitment to work (Haller & Rosenmayr, 1971). These authors operationalized commitment to work as an affirmative response to five items concerned with desires to continue work in the future, expectations of continuing work in the future, plans to resume work in the future if not already working, desires to work for other than financial reasons, and beliefs that women should work (p. 502). Various personal, organizational, and family life contextual variables were controlled. The sample consisted of 1,379 blue and white collar female married workers in varying branches of industry. The findings led the authors to conclude that personal and contextual variables had a significant impact on work commitment (p. 516). The reliability and validity of the measures used were not reported.

Human Service Organizations

Alonso (1970) examined commitment to hospital, profession, and clinical specialty in nurses while investigating the importance of personal and organizational variables on level of commitment. Commitment was conceptualized in terms of the concept of continuance commitment (Kanter, 1968). Measurement of each commitment component followed that of Alutto et al. (1972). A separate commitment score for each type of

commitment was obtained for each nurse respondent through summing responses as to whether she would definitely change, was undecided, or would definitely not change the employing organization, occupation, and clinical specialty given a slight increase in pay, freedom, status, and friendliness of co-workers (1970, p. 110).

Personality variables controlled were place and type of residence, age, religion, number of brothers and sisters, marital status, family income, occupation of head of household, father's level of education, father's ethnic origin, and authoritarianism. Organizational variables controlled were the degree of work full time, work shift, clinical specialty, organizational position, employing hospital, and perceived role conflict (p. 100).

The population of registered nurses (N = 582) employed in three hospitals (religious, community, and government) in New York state comprised the sample for study. Data were collected through administration of a mail questionnaire requiring 70 to 90 minutes to complete. The overall return rate was 89.2%, of these, 94% of 486 returned were suitable for analytic purposes (p. 90). Data were analysed through application of a program known as the Automatic Interaction Detector Program. This program relates explanatory variables to an individual dependent variable and in this respect the analytic goals are similar to those of multiple regression; however, the number of statistical assumptions inferred in the data analysis are fewer (p. 118). Differences in levels of commitment were tested through application of the Neuman-Keuls test for group means (p. 126).

Professional commitment scores of a relatively high range were

found to characterize the sample and were associated with a variety of personality and organizational characteristics. Variables significant in determining the level of professional commitment were the type of residence, ethnic origin, father's occupation, employing hospital, type of clinical specialty, and perceived role conflict. Moderate commitment to clinical specialty was found in addition to five variables associated with level of commitment to clinical specialty: type of clinical specialty, age, authoritarian personality, family income, and degree of role conflict (p. 199). Of these variables, clinical specialty and age were the predominant variables differentiating nurses in terms of clinical specialty commitment (p. 197). Organizational commitment for the population of respondents was found to be at a moderate level. Levels of organizational commitment were associated with an interrelation of personality and organizational variables. Age and clinical specialty were found to be crucial variables in developing nurses' commitment to the hospital (p. 234).

Noting that most of the Ritzer and Trice (1969) relationships were in the predicted direction but not statistically significant, Alutto, Hrebiniak, and Alonso (1972) set out to test the side-bet hypothesis on a sample of teachers and hospital nurses. Commitment was operationalized by asking respondents whether they definitely would, were undecided, or definitely would not change employing organizations and occupations for no increase, a slight increase, or large increase in pay, status, freedom, and co-worker friendliness (p. 449).

Data were collected through a mail questionnaire. Of 450 questionnaires returned by teachers, 318 or 70% were usable data for

analyses, of 486 questionnaires returned by nurses, 395 or 81% were suitable for data analyses. The original sample sizes receiving the mail questionnaire were not reported. Based on an inspection of inter-item correlations the instrument was revised to incorporate only one response alternative, a slight increase in inducement (p. 450). An individual's revised commitment score was obtained by summing responses as to whether he/she would definitely change, was undecided, or would definitely not change his/her employing organization and occupation given a slight increase in pay, freedom, status, and friendliness of co-workers. Structural and psycho-social variables controlled were age, years total experience, intention to seek an advanced degree, marital status, sex, sponsorship, and dissatisfaction.

Contrary to the findings of Ritzer and Trice (1969), Alutto et al. found support for the side-bet concept which emphasizes the importance of structural phenomena in understanding commitment. These authors found high occupational commitment in young inexperienced professionals, fresh from educational programs with salient professional ideals. Middle aged respondents exhibited a slump in commitment to occupation, perhaps due to adjustments made to the realities of individual-organizational-occupational interactions. Individuals most committed to their profession were those with definite plans to further their professional education (1972, p. 452).

Commitment to work, as in industrial organizations, has not been frequently examined in human service organizations. In a descriptive study closely related to work commitment, the central life interest of professional nurses was examined using Dubin's (1956) measure of

central life interest in work (Orzack, 1959). Subjects were asked to indicate the relative importance of informal relations, general sources of personal satisfaction, formal organization relations, and technological relations in both work and nonwork settings. Data were collected through questionnaires administered to registered nurses employed in public and private hospitals. Data analysis was based on 150 completed questionnaires. Whether or not the sample was randomly chosen was not reported as well as reliability and validity estimates and questionnaire response rates. Professional nurses were found to weigh work settings more heavily than nonwork settings with one exception, informal relations were more closely linked with nonwork settings (p. 127). Orzack suggested that the commitment to colleaguel relations expected of professionals might not be fully developed in nurses due to conflicting normative family commitments (pp. 126-128), a viewpoint which Coser and Rokoff share (1971, p. 548). Nevertheless, work appeared to be a major area of interest of the professional nurses sampled.

Conclusions Based on Empirical Research

Empirical interests have centred about a variety of occupational groups. Specifically, the empirical assessment of commitment has focused upon scientists (Lee, 1971; Steers, 1977), nurses and teachers (Alutto, et al., 1972), nurses (Alonso, 1970), patrol officers (Maanen, 1975), managers (Buchanan, 1974; Porter et al., 1976; Ritzer & Trice, 1969), blue and white collar workers (Dubin et al., 1975; Franklin, 1975; Likerk, 1971), forest rangers (Hall et al., 1970; Shoemaker et al., 1977), women (Haller & Rosenmayr, 1971), and special cultural groups such as

kibbutz members (Antonovsky & Antonovsky, 1974) and Japanese employees (Marsh & Mannari, 1971).

Few studies have focused on the empirical description of commitment in nurses (Alonso, 1970; Alutto et al., 1972). With the exception of the preceding studies and that of Steers (1977), in which hospital employees were but one subgroup of the sample studied, it would seem that no research has been done concerned with describing commitment among hospital employees or investigating factors relating to its development in nurses.

It is interesting to note that the range of objects or components of commitment has been fairly limited in empirical investigations. The main objects of commitment as foci of investigation in empirical studies have been the following: the organization, the occupation, and work. Although most researchers have implicitly or explicitly recognized commitment as multidimensional, they have operationally defined commitment in unidimensional terms while concentrating their efforts on identifying the antecedents and consequences of commitment. The wide range of variables controlled encompass personal and job characteristics, work experience, and job outcome variables.

A consensus as to the conceptual meaning and operational measurement of commitment has not been apparent. In addition, although some authors have attempted to openly define commitment and choose operational measures in keeping with their definition, others have defined commitment solely through their choice of operational measures. It appears that in the haste of researchers to identify and examine correlates of commitment, a propensity to utilize the operational

measures of other researchers in the area has developed, with little regard or concern for inherent differences in the populations studied. This would certainly have implications in terms of the validity of results.

Commitment has been operationalized in a variety of ways, most frequently as desires to belong, belief and acceptance of norms and goals, feelings of solidarity, loyalty, expectations to continue in a line of activity, and importance of an activity or belief. Commitment in large part has been measured by Likert agreement-disagreement scales, scales describing the degree of importance of a belief or action, or those describing the likelihood or decisiveness associated with a future course of action. Data collection has usually involved the use of survey instruments alone or in combination with personal interviews. With the exception of one study (Patchen, 1977) data collection has been at the level of the individual. Sample size has ranged from 76 to 1,379 with approximately half the samples in all combined research selected randomly. For the most part return rates of mailed questionnaires were not reported, of those reported, return rates varied between 66 and 85%. In general, however, the detailed reporting of both commitment measures used and the empirical estimates of reliability and validity proves to be the exception in most studies, since the analysis of commitment has not been the focal point of most investigations, but rather one of many variables studied. Moreover, the ability to make meaningful comparisons between studies is limited due to the diversity of components of commitment measured, types of measures used, and samples selected for study.

Nursing Personnel Viewed Within the Context of Hospital Organizations

Since the late 1930's the majority of nurses have practiced in hospital organizations (Hall, 1964, p. 270; Statistics Canada, 1977, p. 37). As a consequence, hospitals have a greater impact on nurses as employers and providers of nursing care than any other care setting.

Historically, hospitals have evolved into the most important organizational intermediary in the provision of health services to individuals. Directly related to their growth has heen the increasing involvement of nurses in the delivery of health services. Two factors have contributed to the accelerated growth of hospitals. First, rapid development of scientific knowledge and technology in the health field has led to increased medical specialization. In turn, physicians have encouraged the development of hospitals catering to their specialties (Rosen, 1963, p. 39). Second, the public demand for and expectations of the health care delivery system have increased over time in accordance with technological innovations and greater public awareness. As a result, hospitals have increasingly been pressured to provide complex multiple health services and have become centralized care units bringing facilities, personnel, and patients together for purposes of medical research, education, and patient treatment (Wilson, 1959, pp. 77-83).

The growth of hospitals in terms of size and complexity has been accompanied by the development of both special services institutions and institutions generally characterized by varying requirements for nursing and physician services, duration of patient stay, and types of medical services offered. Examples of classes of hospitals are the acute general, rehabilitative, auxiliary, psychiatric, and cancer hospitals.

Currently, the most crucial problems facing the hospital industry are those of meeting the increased demand for provision of services for complex health problems and controlling spiralling operating costs (National Health and Welfare, 1971, p. 123; Robertson, 1973, p. 69; Somers & Somers, 1961, pp. 191-217). At the same time, while hospitals in the past have primarily devoted services to the care of short term illnesses, the care of the chronically ill is gaining in importance as a responsibility of hospitals (McKeown, 1966, pp. 157-169). As a result of these factors the role of hospitals in the delivery of patient health services has increasingly become broader and more complex.

Central to the organizational adaption of hospitals to greater health care demands are the professional subgroups employed in hospitals. Nurses as a collectivity constitute the major labour component in hospitals both in terms of operating costs and numbers in providing patient care (Brown, 1977, pp. 39-70; National Health and Welfare, 1977, p. 27). Moreover, nurses are the most strategically located subgroup within hospitals to mediate the hospitals' overriding goals of patient treatment (Georgopoulos & Mann, 1962, pp. 300-312). The development of an understanding of commitment in nurses could, then, be important to improving knowledge concerning hospital functioning.

Prior to recognizing components of commitment in nurses, social and organizational factors that exert influence on the status and role of nurses in hospitals must be better understood. In this regard, several organizational role tensions for nurses within hospitals have been identified as follows: (a) the relatively weak economic position of nurses (Alonso, 1977, p. 60), (b) the conflict between normative female

societal responsibilities and professional practice (Alonso, 1977, p. 61; Coser & Rokoff, 1971, p. 548; Lebowitz, 1977, p. 10), (c) the professional role confusion of nursing personnel (Alonso, 1977, p. 60; Strauss, 1966, p. 63), (d) the organizational structure which leaves nurses responsible for most aspects of patient care but relatively impotent in decision making power (Alonso, 1970, p. 61; Davis, 1966, viii; Gaynor & Berry, 1977, p. 19; Lebowitz, 1977, p. 10; Stinson, 1970, p. 378; Mauksch, 1966, p. 117), and (e) the organizational context of nursing which sharpens conflicts between functional responsibilities of nurses (Corwin et al., 1961, p. 144; Mauksch, 1966, p. 130).

A prime characteristic of the relatively weak economic position of nurses as a group is their inability to command the level of economic reward usually associated with professional status. In addition, cutbacks in governmental funding in most economic sectors have generally operated to freeze planned and current expenditures on health programs. Inevitably this period of economic restraint must take its toll on the labour market structure in the form of regional oversupplies of nurses, the net effect being the weakened economic position of nurses.

Some role dilemmas exist for nurses as a result of cultural expectations concerning mores governing adult sex roles (Davis et al., 1966, p. 173). Nursing is primarily a female vocation. In fact, women outnumber men far in excess of other predominantly female occupations such as teaching, social work, and librarianship (Etzioni, 1969). Because the majority of nurses actively employed in nursing are married (Davis et al., 1966, p. 130; Statistics Canada, 1977, p. 19), the dilemma of familial-professional role ambiguity of women in nursing is a

real one. Coser and Rokoff suggest that although nursing implies deep attitudinal involvement, the cultural expectation that women give their commitment first to their families depresses the commitment value of female occupations and hence reduces their prestige (1971, p. 548). The general "female" role also has important implications in terms of organizational practices. That is, to some extent the managerial functions of nurses arise from nurses assuming the roles of mother surrogate and male doctor attendant (Alonso, 1970, p. 43).

Professional-organizational role confusion in nurses stems from a number of sources. One is the existence of at least three educational programs of professional socialization: the associate degree--two years in length, the hospital diploma--three years in length, and the baccalaureate degree—four years in length. Although each group receives the same professional certification, the length of program establishes an educational hierarchy which tends to be reflected in the organizational structure of hospitals (Alonso, 1970, p. 45; Strauss, 1966, p. 63). For example, labour division in nursing suborganizations tends to follow the educational and legal position of the nurse. Further, the proliferation of auxiliary nursing personnel has necessitated the increasing responsibility of nurses in teaching, administrative, and supervisory roles. In this regard, Georgopoulos and Matejko indicated that auxiliary nursing personnel, those least professionally prepared, are occupying the traditional roles of bedside nursing (1967, p. 92). Part of the role ambiguity of nurses, then, stems from the professional ethos of bedside nursing as nursing's chief rationale for being and the organizational reality that professional nursing activities are moving farther away from

the bedside (Strauss, 1966, p. 63). Nursing role ambiguity may also stem from the professional socialization of nurses to assume responsibility for patient care while physicians expect nurses to act as assistants to them. In both instances, nurses become caught in the conflicting demands of professional identity and organizational reality (Georgopoulos, 1966, pp. 20-25; Mauksch, 1965, pp. 251-265).

The relative powerlessness of nurses with regard to decision making in light of their responsibility for most aspects of patient care gives rise to role tension in nurses. Hospitals tend to be highly complex organizations based on the mutual co-operation of a large number of heterogenous interdependent professional and semi-professional groups (Perrow, 1965, pp. 911-913). The relatively weak power position of nurses compared with other groups stems from two sources. First, as employees of hospitals nurses are agents of the system in terms of the implementation and enforcement of administrative objectives (Mauksch, 1966, p. 123). In this capacity nurses are obligated to record and report their activities and function within organizational guidelines (p. 113). Second, nursing personnel are assigned to patient care units and are expected to be there continuously, unless properly relieved. While nurses are present on the patient care unit twenty-four hours a day, other health personnel, notably physicians, are freefloating in that they can come and go at will (p. 117). The inability of nurses to move freely within the organization reduces their power to take action (Elliot, 1977, p. 49) and structurally imposes on them the responsibility for 24 hour patient care.

Generally the primary goal of hospitals is the provision of patient health services within acceptable standards of patient care (Georgopoulos & Mann, 1962, p. 84; Georgopoulos & Matejko, 1967, p. 80). Moreover, the subservience of personal goals to those of the organization is an acceptable organizational norm in hospitals. The cost of such goal attainment, however, is not shared equitably among various groups in the hospital (Georgopoulos & Matejko, 1967, pp. 81-85). In comparison with such groups as department heads, administrators, physicians, and other health personnel groups, nurses are in the uncomfortable position of paying the major costs of the goals and obligations expected of health personnel in hospitals (Alonso, 1970, p. 49). In large part this arises from the formalized structural obligations of nurses for 24 hour responsibility of patient care and their inability to be freefloating.

By virtue of the fact that nurses are both professionals and hospital employees, three major functions of nurses are often in conflict with one another. These functions have variously been termed care, cure, and co-ordination (Mauksch, 1966, p. 112). Necessitated by the increasing specialization of medical and nursing services and the diversity of non-medical personnel visiting the nursing unit daily, nurses have assumed responsibility for co-ordinating the sequencing and timing of all direct and indirect patient care services. Conflicts potentially arise from the nurse in her dual representation of nursing and total patient care. The meeting of patient needs is generally the goal of nurse-patient interaction and is sometimes divided into two separate processes: patient care and patient cure. These processes implicitly suggest that nursing goals are primarily care goals and medical goals are primarily cure goals

(Wooldridge et al., 1968, p. 8). Through both occupational motivations and professional ethics, the nurse is committed to assist the physician in his endeavours to bring about patient recovery. Further, she is employed by the hospital to devote an important part of her time to the carrying out of medical directives (Wooldridge et al., 1968, p. 113). At the same time, however, nurses experience a deep felt orientation toward the nurturing image of nursing and the professional responsibility of meeting the psycho-social care needs of patients. That many of these psycho-social needs are situationally derived from hospitalization and direct medical interventions can not help but produce inner tensions in nurses. Further conflict in nurses can arise from the knowledge that the meeting of patient "care" needs is left almost entirely to the discretion of the individual nurse (p. 116). The nurse's responsibility in this area is, therefore, high. Yet when working under time pressure the carrying out of medical directives usually receives priority over nursing prescriptions for meeting psycho-social patient needs. In part, this is supported through built-in organizational sanctions when failure to comply with medical guidelines is evidenced. In contrast, failure to comply with nursing guidelines yield sanctions which are mild to non-existent (p. 18).

A description of the organizational context of nursing has suggested some components of nurses' commitment arising from the intersection of professional goals and values with organizational realities. A more indepth look at the components of commitment for nurses in this investigation will now be examined.

Components of Commitment for Nurses in This Investigation

Commitment to the Nursing Occupation

A great deal of literature has been generated dealing with commitment to organization and occupation and the conflicts of professionals employed in bureaucratic organizations. Two major viewpoints are expressed concerning the outcome of this conflict, one, that conflict results in loyalty and commitment to either the profession or organization and, two, that commitment develops to selective aspects of both profession and organization (Miller & Wagner, 1971, p. 152).

In hospital organizations physicians and nurses are believed to have primary allegiance to their profession rather than occupational status (Argyris, 1965, p. 62; Schulz & Johnson, 1976, p. 166). In this regard, Bennis et al. (1958) asked nurses in a series of paired comparison items to indicate their relative loyalty to six groups. In order of loyalty from highest down was the nursing profession, the particular department in which the nurse worked, the hospital, their own particular work group, the medical field, and the hospital's nursing service department.

One of the primary sources of commitment to the profession or occupation is thought to be socialization through educational training (Davis et al., 1966; Kergin, 1970, p. 55; Miller & Wagner, 1971, p. 152; Orzack, 1959, p. 126). While socialization to a profession is expected to develop an individual's satisfaction with work activities, Orzack indicates that this satisfaction may not be as fully developed in nursing as in other professions. He concluded that the profession lacked sufficient appeal to outweigh role obligations demanded from non-professional groups (1959, pp. 125-132).

Although commitment to an occupation may tend to be a function of educational socialization, the recognition of organizational realities by young professionals may act to mitigate against the process of educational socialization. For instance, Corwin and Taves found that general duty nurses had an especially low image of nursing compared with student nurses (1963, p. 193). In this regard, disillusionment with nursing may result from nurses' perception of differences between nursing ideals and organizational realities (Corwin et al., 1961, p. 141). In another study, Smith suggests that nurses' alienation from nursing is a direct consequence of the conflicting expectations of head nurses and nurse educators (1965, p. 202). Whatever the cause, it is likely that the disillusionment experienced by nurses is functionally related to levels of commitment to the nursing profession.

Simonton (1970) indicated that nurses with high professional identification were oriented toward control over nursing practice by the organized profession, authority in nursing practice, and allegiance to the nursing community. Corwin et al. implicitly suggest that commitment to the nursing occupation encompasses loyalty and membership (1961, p. 141). Inherent in commitment to the occupation of nursing is the assumption of responsibility for keeping abreast of new knowledge so that patient care goals can be facilitated (Habenstein & Christ, 1963, p. 45; Kergin, 1970, p. 51; Schumacher, 1977, p. 76). Corwin's professional scale items focus on commitment to knowledge as a basis of professionalism and the ability of nurses to use judgement and power to make suggestions about nursing care practice (1961, pp. 69-86).

Commitment to Nursing Work

Women's commitment to work has specifically been of interest in female dominated professions and generally as larger numbers of women enter the work place. This interest is largely stimulated by cultural expectations concerning female familial-professional roles (Coser & Rokoff, 1971, p. 548; Safilios-Rothschild, 1971, p. 49).

Of interest to this investigation is the commitment of nurses to work in nursing vis à vis work in other fields. In the nursing literature the conflicting roles associated with nursing and family life and the secondary nature of commitment to nursing work relative to familial roles is well recognized (Davis & Olsen, 1965, p. 335; Glaser, 1966, p. 25; Gunter, 1969, p. 131; Hurka, 1972, p. 29; Mayes et al., 1968, p. 31). This limited commitment to work in nursing, especially during nurses' early work years, is suggested by statistics pointing to ages of inactive nurses (American Nurses Association, 1969, p. 8; Statistics Canada, 1977, p. 36) which imply that nurses cease employment when they are mothers and the identification of financial need and absence of young children as best predictors of women choosing active employment (Cleland, 1976, p. 90). Full commitment to work in nursing may be deferred until later years (Kergin, 1970, p. 54). Commitment to nursing work vis à vis other types of work has become a credible concern for the nursing profession due in large part to social change and the opening up of more job alternatives for women (Glaser, 1966, p. 25).

Commitment to work in women is thought to be indicated by desires to work in the future and working when there is no financial need

to do so (Haller & Rosenmayr, 1971, p. 502). Continuing in a line of activity, in this case nursing work, in the face of attractive alternatives (Becker, 1960) would also be a likely indicator of commitment to nursing work.

Commitment to Employment Areas

Three employment areas are relevant to the commitment of nursing personnel employed in hospitals. These are the hospital, clinical specialty, and nursing unit. As noted previously, researchers have recognized the capacity for persons to be committed to organizations and selected aspects of organizations (Etzioni, 1961, p. 10; Gouldner, 1960, p. 471; Kanter, 1968, p. 500). Furthermore, when organizational subparts are relatively autonomous and distinct (as with nursing subunits), individual members may have different degrees of commitment for different levels of the organization (Patchen, 1970, p. 165).

Hospitals. The investigation of organizational commitment has mainly been associated with conflicting professional commitments and the identification of antecedent variables. Length of tenure in the organization together with various work experiences have been related to organizational commitment (Buchanan, 1974). Empirical investigations concerned with nurses' commitment to the hospital have concluded that structural and personal variables such as age, tenure, and clinical specialty influence level of commitment to the hospital (Alonso, 1970, p. 234; Alutto et al., 1973, p. 453).

Commitment to the hospital is partly a function of the employee status of nurses. As a consequence of being agents of the institution, nurses are often caught between commitment to hospital procedures and rules and commitment to nursing care and cure activities (Mauksch, 1966, p. 114). In the past, strong allegiances between the hospital and nurse resulted from the mutual dependence of one upon the other. Most nurses were educated in hospitals and hospitals depended on students for inexpensive labour. Currently, nursing education is primarily carried out in independent settings apart from hospitals. A plausible hypothesis is that commitment to the hospital previously developed through hospital based nursing education programs is not as strong as it once was.

The heightened probability of continuing employment in an organization (Abramson et al., 1958, p. 16; Patchen, 1970, p. 242) in the face of attractive alternatives (Alonso, 1970; Alutto et al., 1972) and the greater likelihood of freely choosing to return to an employment area (Kavcic et al., 1971; Patchen, 1965, p. 67) would tend to indicate commitment to the employing organization.

Clinical Specialty. For the purposes of this investigation clinical specialty was defined as an employment area, although terms such as professional subsystems or skill specialization have been used in describing clinical specialties (Alonso, 1970). Although a clinical specialty is not necessarily physically bounded within a particular nursing unit or hospital, frequent references by nurses to working "in pediatrics," for example, together with preferences of nurses for employment in particular specialties, underline nurses' perceptions of

specialty as an employment area.

Commitment of individuals to segments of the organization has usually been inferred from associating personality variables to an individual's choice of specialty within a profession. For example, in an investigation of personality contrasts among medical and surgical nurses, Lentz and Michaels concluded that nursing specialties call for specific personality types (1965, p. 46). In a complementary study, Lukens attempted to identify the needs, values, and occupational perceptions characteristic of nurses in varying specialty areas (1965). Further, Delora and Moses (1969) demonstrated a clinical specialty preference scale for 204 nursing students. The implications from these studies are that nurses freely choose on the basis of preference, in line with personal attributes, a career in a specialized field. Once employed in a particular clinical specialty, the level of commitment may vary in relation to organizational and personality variables. In this regard, Alonso found that various levels of commitment to clinical specialty were associated with clinical department, age, authoritarian personality, family income, and degree of role conflict (1970).

In the nursing profession, specialties are often distinguished by the type (including age) of patient attended to, the medical condition of the patient (Bowden, 1967, p. 246), the prognosis for patient recovery, and the type of physician associated with the clinical specialty. Expressed preference (Marks, 1977) for these elements of clinical specialty in terms of the current employment area would be suggestive of commitment to clinical specialty. In addition, both the heightened probability of continuing employment (Abramson et al., 1958, p. 16;

Patchen, 1970, p. 242) in the specialty and the greater likelihood of freely choosing to return to employment (Kavcic et al., 1971; Patchen, 1965, p. 67) in the clinical specialty would be suggestive of commitment.

Nursing Unit. A third component of commitment to employment areas is commitment to the nursing unit. Patchen indicated that attachment of individuals to their own immediate part of an organization was often easier for them than attachment to the larger whole (1970, p. 165).

Nursing units are relatively distinct and autonomous in several ways. For instance, hospitals structure work along functional and territorial lines according to disease or requirements for service with the aim of achieving patient homogeneity. The spatial separation of work units and the relative absence of unit interdependence results in the creation of clearly defined subsystems within the organization. As a consequence, attitudes held by employees toward the hospital as a whole can be expected to differ from attitudes toward the unit in which they work (Mowday et al., 1974, p. 231). In addition, as nursing units are structured in terms of specific categories of disease, physical disability, or age group, each nursing unit tends to have different operational goals relative to the specialization of patient care and treatment provided. In consideration of the above, together with the administrative practice of permanently assigning nurses to nursing units, it can easily be seen that nurses could perceive the nursing unit as a distinct organizational entity to which they might develop commitment.

Several organizational indicators of commitment are applicable to the nursing unit: for example, loyalty (Porter et al., 1976, p. 88),

feelings of solidarity or belongingness (Gouldner, 1960, p. 471; Patchen, 1965, p. 55; Sheldon, 1971, pp. 143-158), willingness to recommend the nursing unit, and the exertion of extra effort on behalf of the nursing unit (Porter et al., 1976, p. 88). As with commitment to hospital and clinical specialty, the heightened probability of continuing employment (Abramson et al., 1958, p. 16; Patchen, 1970, p. 242) on the nursing unit and the greater likelihood of freely choosing to return to employment (Kavcic et al., 1971; Patchen, 1965, p. 67) on the nursing unit would be suggestive of commitment.

Commitment to Persons in the Work Place

Besides commitment to the employment area, nursing work, and the nursing profession, commitments are made to maintaining and supporting relationships developed in the work setting. Several researchers have explicitly recognized the commitment of individuals to person groups in the work setting (Etzioni, 1961, p. 11; Kanter, 1968, p. 500; Salancik, 1977, p. 3). Four major person groups are intimately related to the daily functioning of most types of nursing units. These person groups consist of nursing peers, physicians, patients, and the families of patients.

Nursing Peers. Professionals are generally characterized as having commitment to their work and commitment to other persons engaged in the same work. Not only is it important that work be done but that it be accomplished with the approval of colleagues with whom one shares basic values (Coser & Rokoff, 1971, p. 547; Orzack, 1959, p. 128).

Social relations within work settings are, then, relatively salient for professionals (Orzack, 1959, p. 130).

From nursing situations inferences can be drawn about factors likely to contribute to the commitment of nurses to their colleagues. Through virtue of educational socialization nurses tend to share common patient care goals and values. Nursing personnel employed on the same nursing unit also share common goal sets, skills, and tasks through work with the same type of patients. In some limited sense, it can be expected that frustrations, obstacles to patient care, and reward systems are shared as a result. This sharing of work experiences together with the responsibility for twenty-four hour patient care influences the strength of attachments formed with nursing colleagues. As an example, many of the problems which nurses face on the job are situational in nature and demand immediate resolution. If help is required in detecting and solving a patient problem, other nursing personnel are usually the only persons available to assist. The very fact that all other health personnel come and go from the unit while nursing personnel are assigned to stay has consequences for nurses' reliance on colleagues.

Etzioni (1961) has indicated that commitment to social relations (such as nursing peers) necessitates social involvement with them. Orzack (1959) concurs in that preferences for informal social interaction with work colleagues was expected of nurses due to their professional status. On the other hand, Kanter (1968, p. 500) views commitment to person groups in terms of helping one another out; for nurses, examples might be the encouragement of teamwork and the sharing of information important to patient care. The willingness to put forth extra effort

(Porter et al., 1976, p. 88) and the perception of shared characteristics in terms of common goals and interests (Patchen, 1970, p. 157) have been identified as elements of commitment. Examples would be staying overtime to assist nurses coming on duty and providing assistance to other nurses so that they might complete their work on schedule, respectively.

Physicians. In meeting the needs of patients nurses are generally involved in two processes--patient care and patient cure. Nursing goals, which primarily include care goals also encompass medical goals which are cure oriented in nature. As previously related, the nurse, through both occupational motivations and professional ethics, is committed to assisting the physician in his efforts to bring about patient recovery. Further, the nurse is employed by the hospital to devote a good deal of her time to the carrying out of medical prescriptions (Mauksch, 1966, p. 113) and organizational sanctions tend to be severe if failure to comply with medical guidelines is evident (Wooldridge et al., 1968, p. 18). In part, these severe sanctions are a form of organizational control. Although the hospital and its board of directors are responsible for overall quality of patient care, through hospital by-laws the carrying out of much of this responsibility is delegated to the medical staff. Commitment to physicians may, however, be more pragmatically based. As physicians have the monopoly on prescriptive powers in hospitals nurses may align themselves closely with physicians in order that the meeting of patient care needs is better facilitated.

Feelings of solidarity (Patchen, 1970, p. 156) with physicians and the degree to which identification (Gouldner, 1960, p. 471) with

physicians exist are two indicators of nurses' commitment to physicians. Specific examples are feelings of belonging to a team of physicians and nurses and looking for physicians' approval of work done, respectively. In addition, attitudes supportive (Patchen, 1970, p. 156) of the physician group, such as liking and respecting physicians and enjoying assisting physicians in their work would be indicative of commitment to physicians.

Patients. In its simplest form, nursing consists of assisting individuals in activities contributing to health or recovery from illness or disability (Henderson, 1970, p. 15). Simmons contends that the caring orientation is fundamental to nursing (1980). Ideally, "caring for" patients necessitates "caring about" patients. Without both, optimal commitment to patients in terms of positive patient outcome is unlikely. The ideology of commitment to patients is evident throughout the nursing literature. For instance, Ferlic states that patient-centred nursing is integral to the profession of nursing (1968, p. 30) and Corwin et al. equate loyalty to the profession with loyalty to patient welfare (1961, p. 144). The movement from disease oriented to patient-centred approaches to nursing (Wallace, 1970, p. 149) incorporating the concept of comprehensive patient care (Leask, 1970, p. 161) has led nursing educators to base curriculums on sound knowledge of the physical, biological, and behavioural sciences (Kergin, 1970, p. 49).

Empirical evidence of nurses' commitment to patients is provided through the participant observation study of Meyer and Hoffman. Using a sample of six nursing units, these authors found the most

frequently observed relationship to be the nurse with patient (1964, p. 248). Strauss (1966) contends that commitment to the ideal of bedside nursing is so ingrained and powerful that nurses who work away from the bedside (administrators, educators, and researchers) must justify their activities in terms of the ultimate benefit to patients (p. 96).

Since the patient's view of his situation affects his needs and the nurses' efforts to help him, ignoring the patient's concerns and views can act to impede professional effectiveness (Wooldridge et al., 1968, p. 25). Accordingly, commitment to patients would be indicated through attitudes and beliefs supportive of the involvement of patients in the planning and provision of care and patients' right to information. Integral to involvement or commitment to patients would also be attitudes accepting of nurse's personal involvement with patients and concern for patients.

Patient's Families. Information provided through the patient's family can be a necessary element to the process of nursing. Depending on the age and state of health of the patient, the family as a source of information concerning the patient's past history, states of usual health, and concerns is invaluable to the nursing ideal of patient-centred care (Johnson et al., 1970, p. 44; Orem, 1971, p. 83). The extent to which the patient's health is associated with the health of the family and their ability to cope is discussed by Mauksch (1974) and Litman (1974). With regard to this, Stember illustrated the stressfulness of hospital experiences for families and suggested that nursing personnel should attune themselves to these and attempt to reduce

stresses through family counselling and teaching (1977, p. 73). In effect, if nurses can aid families to better support the patient, the well-being of patients might be increased. Commitment to families of patients, indicated through nurses' involvement with family concerns and support of the family's right to information, would appear desirable. In addition, nursing attitudes accepting of personal involvement with families is implicit in commitment to the family.

Commitment to Technology

Two major aspects of nursing work in the organizational context have been described by Mauksch. One concerns cure processes, the other centres about care processes (1966, p. 109). A third major component, co-ordination, is discussed later in this chapter.

The activities involved in care and cure processes comprise what is known as nursing practice (Wooldridge et al., 1968, p. 8). The conflict experienced by nurses given the nature of commitments to both care and cure processes has been previously discussed. Another element of nursing technology is the extent to which task accomplishment is dependent upon multiple person groups. The importance of the feedback source in terms of three major person groups, physicians, nurses, and patients with their families, is descriptive of commitment to task interdependent elements.

Relative Commitments of Nurses In This Investigation

Nursing units can be described as social systems which have goals and objectives relative to the specialization of patient care, the

treatment provided, and patient outcome expected. In light of these factors person groups necessary to the delivery of patient care on nursing units (specifically, nurses, physicians, and patient families) may not be equally important to the successful accomplishment of care goals. For example, when patient care needs are of a patho-physiological nature characterized by acute episodic crises, physicians are likely to be regarded as more important in achieving patient care objectives. On the other hand, nursing units serving patient care needs largely of a socio-psychological nature demand the effective exercise of nursing prescriptions (Wooldridge et al., 1968, p. 11). In this case, nurses would likely consider their nursing peers as more important to achieving patient care objectives.

The importance of specific nursing tasks to the successful achievement of patient care goals is also relative to the specialization of care, the treatment provided, and patient outcome expected. Five major nursing tasks are applicable to all nursing units within hospitals: cure tasks--the carrying out of medical prescriptions and the observation and monitoring of patients' status, care tasks--the provision of physical and emotional comfort and support to patients, and patient-family teaching. As the definition of nursing practice comprises all of these nursing tasks (Wooldridge et al., 1968, p. 8), commitment to each is to be expected. However, given the limited time and energy of nurses and the above factors of specialization, treatment, and variability of patient needs, nurses must make choices between tasks, tasks which are dependent on feedback from patients (Overton et al., 1977, p. 215). These choices will reflect the relative commitment of nurses to nursing

tasks (Marks, 1977, p. 929). In this regard, Wooldridge et al. cite evidence that nurses used to working under time pressures in carrying out medical cure directives do not attempt to carry out nursing care prescriptions even when time becomes available (1968, p. 18). Mauksch emphasizes that the effective practice of nursing is based on sensitivity in choosing nursing task priorities in tune with patient care needs (1966, p. 128). Further, the importance of selecting nursing tasks priorities (Johnson et al., 1970, p. 35) is underlined by the ever expanding role of the nurse and the growth of medical tasks of the nurse in complexity and range.

A considerable portion of nurses' work consists of the day to day co-ordination of patient care and transmission of information among patients, families, and health personnel. In large part these co-ordinative activities are a result of the nurse's continual presence and responsibility for patient care (Mauksch, 1966, pp. 126-136). Four co-ordinative mechanisms peculiar to most nursing units are patient care conferences, nursing care plans, verbal reports, and written reports. The latter two relate to co-ordination by feedback, the former two to co-ordination through programming and planning (Perrow, 1967, p. 198). As employees of the hospital, nursing personnel are obligated to report and record their activities (Mauksch, 1966, p. 113). Commitment to the written record is further reinforced through legislation set forth in provincial Registered Nurse Acts. Hammond noted that in resolving problems regarding the cause and alleviation of given symptoms, nurses rely heavily on perceptual processes such as verbal feedback for lack of other information sources at the given time a decision is required (1966,

pp. 27-38). Koehne-Kaplan and Tilden imply that reliance on verbal feedback is a function of the urgency of the patient situation (1976, p. 270). In addition, commitment to types of co-ordinative mechanisms may also be a function of the number and variety of health personnel associated with patient care on the nursing unit (Mauksch, 1966, pp. 109-137). Although one or more co-ordinative mechanisms may be interdependent with another, the relative importance of each (commitment as defined by Marks, 1977) to nursing personnel is reflected through the choice of one over another.

Relative commitment to employment areas was also a concern in this investigation. Three employment areas pertinent to nursing practice in hospitals have previously been discussed: the hospital, clinical specialty, and nursing unit. The relative importance of each employment area to nurses' clinical practice is reflected through the choice of one employment area over another.

The concept of relative commitment permits the description of several commitment components in terms of nurses' perceptions of their actual relative importance. No assumptions are made in this research concerning the ideal ranking of commitment components by nurses. The possibility that ideally the level and type of commitment should vary with area of specialization is discussed in the following section.

Differences in Commitment Between Groups of Nurses Categorized by Clinical Specialty

Although very little research has been aimed at describing commitment in nurses or identifying similarities and differences in commitment between nursing groups, levels of commitment among nursing

groups were expected to differ. The rationale behind this expectation follows.

Hospitals structure work along functional and territorial lines according to disease or disability, age group of client, and requirements for service with the aim of achieving patient homogeneity within nursing subunits (Starkweather, 1976, p. 267). Types of nursing subunits can, then, be differentiated in terms of patient characteristics, goals for nursing care and patient recovery, and skills and tasks required by nursing personnel. Differences in work pressures among types of nursing units tend to vary according to area of clinical specialization. Allotments of time and energy by nurses would be expected to vary with work pressures peculiar to the type of nursing provided. That is, demands made on skills, tasks, and relationships would likely vary with the type of subunit (specialty) in accordance with patient characteristics and medical specialization (Bowden, 1967; Delora & Moses, 1969; Drummond, 1964; Kramer, 1975; Lents & Michaels, 1965; Molde & Wiens, 1968; Palola & Jones, 1965). Operating room nurses, for example, are highly skilled technicians but have little personal contact with patients. On the other hand, psychiatric nurses experience intensive and sustained contacts with patients but make relatively little use of their training in the treatment and care of physical illness (Raskin, 1965, p. 182). In short, the role of the nurse varies with the organizational context of nursing practice (Wooldridge et al., 1968, p. 13). Consequently, although nursing personnel may be relatively homogeneous in terms of a general set of ideals, values, and skills, the importance of certain values and skills are expected and should ideally differ between nursing specialty

groups in light of the nature of work to be accomplished.

Although no research to date has been aimed at the identification and description of differences and similarities in commitment among nurses from specialized nursing subunits, several studies tend to support the idea that the work of specialized nursing subunits is different. It is plausible that if the work differs among nursing subunits, commitment to components of the work will similarly vary in line with the work to be done. The fact that no research has been done in this area justifies the inquiry of this investigation into differences in commitment among nursing specialty groups.

CHAPTER III

METHODOLOGY

Statement of the Problem

This investigation was primarily concerned with the description of the commitment construct for various types of nursing personnel employed in hospitals. Specifically, types of commitment were to be empirically described as was the relative level of commitment to various aspects of the work place. Secondary purposes were to assess the validity of the commitment measures used and to examine differences and similarities among nurses grouped by area of clinical specialization with regard to (a) level and type of commitment and (b) relative commitment.

Concept Formalization

Commitment was conceptualized in terms of the following hypothetical dimensions: nursing peers, physicians, patients, families, nursing work, hospital, nursing specialty, nursing unit, technology, and nursing occupation. Each of these dimensions was represented by several items and was measured in terms of attitudinal responses on an agreement-disagreement or likelihood continuum. Table 1 illustrates the item content specific to each dimension.

Relative commitment was conceptualized in terms of four major components of the work place: employment areas pertinent to nursing practice and persons, nursing tasks, and co-ordinative mechanisms

Table I

Ten Hypothetical Commitment Dimensions

Commitment Dimension	Item No.	Item Content
Nursing Peers	1	peer socializing
	2	peer encouragement and support
	3	sharing of information with peers
	4	peer teamwork
	5	expending extra effort for peers
Physicians	6	physician liking
	7	physician respect
	8	identification with physicians
	9	physician-nurse teamwork
	10	enjoyment in assisting physicians
Patients	11	concern for patients
	13	personal patient contact
	14	patients' involvement in care process
	15	responsibility for communicating patients' concerns
	17	responsibility for patient information needs
Families of Patients	12	concern for patients' families
	16	responsibility for communicating family concerns
	18	responsibility for family information needs
Nursing Work	22	desire to nurse in the future
	23	nursing without economic need
	24	nursing versus other jobs
Hospital	25	hospital versus other hospitals
	26	hospital preference over time
Nursing Unit	29	unit versus other units
	30	unit preference over time
	31	recommendation of unit to others
	32	loyalty to nursing versus nursing unit
	33	concern with own work versus units' work
	34	strength of unit membership
Clinical Specialty	27	specialty versus other specialties
	28	specialty preference over time
	35	unit physicians preferred
	36	patient prognoses preferred
	37	patient health problems preferred
	38	patient age groups preferred
Nursing Technology	58	relative importance of care activities
	59	importance of care versus cure activities
	60	relative importance of physician feedback
	61	relative importance of patient-family feedback
	62	relative importance of nursing feedback
Nursing Occupation	63	loyalty to nursing profession
	64	nursing profession control of practice
	65	membership in nursing association
	66	attendance at nursing inservice
	67	future plans for formal nursing education

Note. Item numbers correspond with those in the original questionnaire (see Appendix A).

pertinent to patient care on the nursing unit (see Table 2). Stimuli were selected to comprehensively represent each dimension and were presented in pairs such that a choice was forced. The task for each respondent was designating one of the paired stimuli as greater with respect to the dimension of relative commitment in question. Commitment to persons in the work place was operationalized in terms of the relative importance of three groups (stimuli): nursing peers, physicians, and patients' families. A more comprehensive picture of relative commitment to persons in the work place may have been obtained through addition of a fourth group, patients. This group was eliminated in the early stages of instrument development based on the criterion of expected low variance across nursing specialty groups. Relative commitment to employment areas was defined in terms of the relative importance of the hospital, nursing specialty, and nursing unit. Similarly, relative commitment to nursing tasks was operationalized in terms of the relative importance of five tasks representing major aspects of nursing practice: emotional caring, physical caring, observation and monitoring, carrying out medical orders, and patient-family teaching. Relative commitment to co-ordinative mechanisms was defined in terms of the relative importance of four mechanisms available for planning care and information transmittal: verbal reports, written reports, patient care conferences, and nursing care plans.

Unit of Analysis

The unit of analysis for this investigation was the individual nurse. The reality in most hospitals today is that direct nursing care is provided by nursing personnel with varying educational backgrounds and

Table 2

Dimensions of Relative Commitment

Commitment Dimension	Item No.	Stimuli Representing Each Dimension
Persons in the work place	19-21	nursing peers physicians patients' families
Employment areas	39-41	hospital nursing specialty nursing unit
Care-cure nursing tasks	42-51	emotional caring physical caring observation and monitoring carrying out medical orders patient-family teaching
Co-ordinative mechanisms	52-57	verbal reports written reports patient care conferences nursing care plans

Note. Item numbers correspond with those in the original questionnaire (see Appendix A).

qualifications. As an accurate reflection of commitment in all those providing direct nursing care services was desired, nursing personnel other than registered nurses were included in the definition of nurse. A nurse was defined as any one of the following nursing staff personnel: registered nurse, graduate nurse, registered psychiatric nurse, and certified nursing assistant. Nursing personnel in positions of head nurse, charge nurse, assistant head nurse, and permanent team leader were excluded from study as their role orientation is more toward administrative functions than provision of direct patient care services.

Types of Nurses

Nine different types of nurses were selected for study in order that the empirical description of commitment would inherently reflect nursing specialization and thus possess some measure of internal validity. In this regard, Fruchter indicates that when identification of dimensions in a new area of investigation is the research objective a wide range of respondents is desirable (1954, p. 200). The following types of nurses were selected for study.

1. paediatric nurses (PAEDS): comprised nurses employed on units serving children under 16 years of age with general medical-surgical disorders but not nurses employed in nurseries.

2. obstetrical nurses (OBS): comprised nurses employed on units providing services for ante- and post-partum patients but not nurses working in delivery rooms or nurseries.

3. rehabilitative nurses (REHAB): comprised nurses employed on units serving adult patients with primarily physical disabilities requiring active rehabilitation programs.

4. intensive care nurses (ICU): comprised those nurses employed on units serving patients with a variety of diagnoses admitted for "general" intensive care or with requirements for post coronary care.

5. auxiliary nurses (AUX): comprised nurses employed on units providing nursing services for patients requiring long term care, some hospital services, and medical supervision.

6. psychiatric nurses (PSYCH): comprised nurses employed on units providing services for adult patients admitted for active psychiatric treatment.

7. surgical nurses (SURG): comprised nurses employed on units serving adult patients admitted for general surgical procedures, but not nurses employed on specialized surgical units such as cardiac, neurosurgical, orthopedic, or ear, nose, throat and eye units.

8. medical nurses (MED): comprised nurses employed on units serving adult patients with varying diagnoses admitted for general medical diagnosis and treatment, but not inclusive of those nurses employed on specialized medical units, e.g., diabetic or metabolic units.

9. acute cancer nurses (CAN): comprised nurses employed on units providing specialized treatment and diagnostic services for cancer patients admitted primarily during acute stages of illness.

Sample

Several major criteria operated in the selection of nurses for study. First, a sufficiently large sample of nurses was needed to adequately reflect commitment dimensions (Fruchter, 1954, p. 149). Second, for ethical reasons, it was considered undesirable to overtax the manpower resources of any one hospital or nursing unit. Third, given the author's limited time resources, the total number of nurses selected for study could be no larger than five or six hundred when considering documented response rates to mail surveys and problems associated with questionnaire follow-up of a large number of nonrespondents.

Nurses were selected from the population of auxiliary, rehabilitative, cancer, and general hospitals in Edmonton, Alberta. In addition, one psychiatric hospital within the Edmonton district was selected. Thirteen hospitals participated in the research. A list of

all nursing units in each of the nine specialty areas for each hospital was obtained through discussions with nursing administrators. Nursing units were identified as characteristic of a specialty area on the basis of definitions made available to nurse administrators.

A two-stage sampling design was utilized to obtain the final sample of nursing personnel from the list of nursing units in each specialty area. Generally, for every cell in a crossgrid representing hospital and specialty, 50% of the nursing units were randomly selected. In the event that only one nursing unit appeared in a cell, the unit was automatically selected for study. When too few units of a particular specialty existed, random sampling was not carried out in favour of taking the population of units, as was the case with psychiatric and acute cancer nursing units. In this manner, a total of 71 out of a possible 108 units were chosen. The second stage of the sampling design involved stratified random sampling of nursing personnel on each of the 71 nursing units. To avoid oversampling of nurses from a particular unit and specialty, the number of nurses to be randomly selected from each unit was first calculated based on the ratio of nurses employed on the unit to nurses employed within all randomly selected units of the particular specialty times 65--the number of nurses to be chosen from each specialty. Once the number of nurses to be randomly selected from each unit was known, a stratified random sampling of nurses within each nursing unit was carried out based on the ratio of graduate nurses to certified nursing assistants. Table 3 illustrates the distribution of nurses selected for study.

A priori the decision was made to obtain a sample of 65 nurses in each specialty category (with the exception of acute cancer nurses as

Table 3

Number and Distribution of Nursing Personnel

Participating in the Study

Type of Hospital	Type of Specialty									Total/ Hospital
	PAEDS	OBS	REHAB	ICU	AUX	PSYCH	SURG	MED	CAN	
Acute 1	18/57	25/34	11/23	21/68	8/20	16/31	21/71	12/30		132/334
Acute 2	22/69	25/62		30/95		9/18	15/55	26/72		127/371
Acute 3	10/32	10/23		6/19		14/27	7/24	10/26		57/151
Acute 4	9/28	7/16		8/27		10/20	10/30	10/28		54/149
Acute 5	6/18	8/22			7/18		12/44	7/18		40/120
Aux 1					10/24					10/24
Aux 2					12/31					12/31
Aux 3					7/15					7/15
Aux 4					13/33					13/33
Aux 5					8/20					8/20
Psych 1						16/29				16/29
Rehab 1			54/107							54/107
Cancer 1									44/44	44/44
Total/ Specialty	65/204	65/157	65/130	65/209	65/161	65/125	65/224	65/174	44/44	564/1428

Note. The ratios under each column describe the number of nurses randomly selected for this study from the total nurse population within randomly selected nursing units from each hospital and specialty.

the total population was 44). The total number of nurses for study, as a result, was 564. This criterion was based on the following consideration. A fairly large sample was required due to uncertainties about the final response rate to the questionnaire. Low to high response rates to mail order surveys are characteristically in the 40% to 60% range respectively (Kerlinger, 1964, p. 397; Raj, 1972, p. 117). In the event the preceding response rates held true for this investigation the sample size would fall somewhere between 226 and 338. As differences among specialty groups are more meaningful when based upon larger than smaller groups of individuals, the criterion of obtaining 65 nurses in each specialty category was considered desirable.

As mentioned previously, sample selection was not to result in overtaxing hospital or nursing unit manpower resources. Table 4 illustrates the extent to which manpower resources from each hospital were utilized. The involvement of all nurses from the cancer hospital was necessitated by the existence of a very small population of acute cancer nurses. The percentage of nurses sampled from each unit indicates the extent to which individual nursing units were taxed. Between 30 to 49% of the nurses on each nursing unit were randomly selected for study (with the exception of acute cancer nursing units).

It must be noted that although the sampling design allows for generalizability of findings, the design was not established for purposes of generalizability but for alternate reasons previously mentioned. The specific analytic procedures applied to the data and necessitated by research objectives limit the generalizability of findings.

Table 4

Percentage of Nurses Randomly Selected From the Total Nurse Population Within Randomly Selected Nursing Units of Each Hospital

Hospital Number	Type of Hospital				
	ACUTE	AUX	REHAB	PSYCH	CANCER
1	39%	42%	50%	55%	100%
2	34%	39%			
3	38%	47%			
4	36%	39%			
5	33%	40%			

Measurement of Commitment

Pilot Study

A pretest questionnaire was designed to measure ten dimensions of commitment: commitment to nursing work, nursing unit, nursing specialty, hospital, nursing peers, physicians, patients, families, technology and environment, and nursing occupation. Relative commitment to persons in the work place, employment areas, nursing tasks, and co-ordinative mechanisms was also operationalized.

The pretest questionnaire was a revised form of an initial instrument comprised of 144 indicators of commitment, all of which were specifically developed for this investigation based on the literature on

commitment and nursing. Items were designed to engage nurses' attitudes and opinions about various aspects of their job. No assumptions were made about the relationship between attitudinal and behavioural measures of commitment.

This instrument was submitted to ten nurses considered experts in their respective fields for their evaluation of each item in terms of its contribution to the content and measurement of commitment. Three of these nurses were academicians, three were senior nurse administrators, and four were nurse clinicians. Any item was excluded from the 144 item questionnaire on the recommendation of two or more of the ten nurses. The entire process of submitting the instrument to nursing experts with subsequent revisions was repeated. The result was the pretest questionnaire comprised of 67 items, of which 48 were Likert scale and 19 were paired comparison items.

The primary purposes of the pretest were to (a) determine problem areas in the planned method of data collection, (b) estimate response rates to the survey instrument, (c) test the wording and presentation of items and, on this basis, (d) refine ambiguous items and eliminate those with little discriminating power.

The pretest questionnaire was administered to the population of nurses on three medical and three surgical nursing units of a large teaching hospital. Medical and surgical nurses were chosen for the pretest as they exist in greater numbers in the population of nurses than nurses in other specialty areas. The supply of nurses in these particular specialty areas would not, then, be exhausted when it came time for

data collection. In all, 44 medical and 43 surgical nurses participated. Ten days after receiving the questionnaires 59% of the medical nurses and 76.7% of the surgical nurses had returned them to the author. The overall response rate was 67.8%. Fifty-seven of the 59 questionnaires returned were usable for data analysis. The Likert scale items were initially factor analyzed as an entire set. Major sections of the pretest instrument were then factor analyzed separately. Items were identified which did not load with any factor in the orthogonal solutions obtained through factor analysis of the entire set and major subsets of Likert items. Application of paired comparisons scaling to the remaining items revealed the ability of nurses to discriminate stimuli along psychological continua representing relative commitment. Surgical and medical nurses were found to order stimuli specific to each of the four relative commitment continua identically.

Research Instrument

On the basis of the pretest results the pilot study questionnaire was altered in several ways. First, eleven items were discarded as indicators of commitment. These items were those found through the pretest to have low or negligible loadings on all factors in the orthogonal solutions based on the entire set and major subsets of Likert items. The rationale for the discarding of items was based on a simple measure of validity, the correlation of an item with a factor (Harman, 1960, p. 347). In addition, seven of the eleven items were considered questionable or

rejected by two or more nurses chosen to review the questionnaire a third time. Several new items meant to replace those rejected were suggested by the ten nurse reviewers. Consideration was given to the fact that discard of the 11 items would result in insufficient representation of the hypothetical dimensions of peers, physicians, patients, and families in terms of the application of factor analysis. Eight items suggested by the nurse reviewers were added to bolster measurement of these dimensions. In the final questionnaire these correspond with items 2, 3, 4, 7, 10, 14, 17, and 62 (see Appendix A). Three paired comparison items were also added corresponding with items 52, 53, and 54 in the final questionnaire. The specific content each Likert scale and paired comparison item was intended to measure is indicated in Tables I and II respectively. Second, items within each major section of the instrument were reordered to follow a logical sequence in terms of content. The purpose of reordering along lines of content was to reduce respondent frustration and fatigue thereby facilitating accuracy of responses. Third, all items were reviewed again for presentation, clarity, and redundancy. Changes in wording of items and directions were revised accordingly.

Scoring

In terms of each Likert scale item the respondent was asked to indicate one of the following: the extent of agreement, likelihood, or decisiveness. In relation to the four point agreement-disagreement items each respondent was asked to indicate strong agreement, agreement,

disagreement, or strong disagreement (items 1 to 18, 31 to 38, and 58 to 65). For items 24 to 30 and 66 the respondent was asked to indicate the likelihood of an action occurring on a four point scale representing the points very likely, likely, unlikely, and very unlikely. Items 22, 23, and 67 were measured on a three point scale representing the responses of yes, undecided, and no. Likert scales permitting one of three or more possible responses were selected in order to accurately reflect expected attitudinal variations in nurse responses.

As each choice on a Likert scale was assumed to represent equal intervals in the mind of the respondent, the points on all Likert scales were considered conceptually equidistant. For purposes of analysis, strong agreement to strong disagreement were respectively given the following numerical values: 4, 3, 4, 1. Similarly, very likely to very unlikely were respectively given the following numerical values: 4, 3, 2, 1. Responses for the three point scale, yes, undecided, and no were given the numerical values of 3, 2, and 1 respectively. Exceptions to this scoring procedure were items 32, 33, and 65 which were scored the reverse of the above, strong agreement to disagreement were given the numerical values 1 to 4. This reverse scoring was done to maintain scoring consistency over all items such that a high numerical value was consistent with high commitment. For example, if a respondent strongly disagreed with item 32 the choice was given a value of 4, indicating high commitment to nursing unit. Similarly, for a respondent who strongly agreed with item 33 the choice was given a value of 1, indicating low commitment to nursing unit. All items to be used in the calculation of relative commitment through application of scaling procedures were scored

in the same manner; the first stimulus in a given pair was given a numerical value of 1, the second stimulus a numerical value of 2.

Data Collection

The senior nursing administrator at each of the 13 hospitals was approached to determine the feasibility of staff involvement. Each nurse administrator was then asked to identify nursing units in the hospital which met with definitions of the nine specialty units. Nursing employee lists for each randomly selected nursing unit were subsequently obtained from the nurse administrators. In an informal meeting with head nurses and supervisors of the units sampled, the purpose of the research and data collection procedure was described. During this meeting questionnaires were given to supervisors or head nurses to distribute to each staff member randomly chosen for study. Questionnaires were individually addressed and had self-addressed postage paid envelopes attached. To promote anonymity of responses the respondent was asked to detach the face sheet having on it his/her name. Confidentiality of nurses' responses was assured.

A priori the decision was made to accept for study only those questionnaires returned within three weeks of questionnaire delivery to the head nurses. With nurses working different shifts and days and with the start of vacations during the data collection period a reminder in the form of a nondiscriminating prompt was delivered to each sampled nurse after one week had passed. After two weeks' lapse a discriminating prompt was addressed to each nurse who had not yet returned the questionnaire. A total of 564 questionnaires was sent out with an overall return

rate of 93.1% after three weeks. Of these, 79.6% were returned prior to the initiation of prompting, 7.1% were returned between the first and second prompt, and 6.4% were returned after the second prompt. More than half those who returned the questionnaire after the second prompt indicated that they had been on vacation. It was concluded that prompting had little systematic effect on nurses' responses. For a detailed breakdown of response rate by hospital and nursing specialty see Table 5.

Two qualifications existed for acceptance of questionnaire data for study. First, data were accepted for the empirical description of commitment dimensions when no more than 10% of the Likert items had missing data. This criterion was selected as factor solutions based on data from fully complete questionnaires and those with 10% missing data were remarkably similar, whereas solutions based on data from fully complete questionnaires and those with 15% missing data were relatively different. It was concluded that systematic effects in responses to items were present in questionnaires having more than 10% of the data missing. Prior to applying the criterion, items which loaded below .10 on all factors, based upon data obtained from 425 fully completed questionnaires, were excluded from further analyses. In this way identification of poor items was founded upon complete data sets, yet data information was maximized in final analyses due to specification of an acceptable criterion for missing data. Out of 525 questionnaires returned, 499 (95%) met the criterion for the proportion of missing data allowed. Second, due to the measurement technique utilized, questionnaire data could not be used in the calculation of relative commitment if any

Table 5

Questionnaire Response Rate (%)

Type of Hospital	Type of Specialty									Total/ Hospital
	PAEDS	OBS	REHAB	ICU	AUX	PSYCH	SURG	MED	CAN	
Acute 1	88.9	86.7	100.0	100.0	87.5	93.7	95.2	100.0		94.3
Acute 2	86.4	96.0		100.0		100.0	100.0	76.9		92.1
Acute 3	90.0	100.0		100.0		92.8	89.7	90.0		93.0
Acute 4	88.9	71.4		87.5		80.0	100.0	90.0		87.0
Acute 5	83.3	88.9			85.7		100.0	100.0		95.0
Aux 1					100.0					100.0
Aux 2					100.0					100.0
Aux 3					100.0					100.0
Aux 4					100.0					100.0
Aux 5					100.0					100.0
Psych 1						93.7				93.7
Rehab 1			98.1							98.1
Cancer 1									81.8	81.8
Total/ Specialty	87.7	92.3	98.5	98.5	96.4	92.9	96.8	87.7	81.8	93.1

item within each set of items was missing. Item sets included items 19 to 21, 39 to 41, 42 to 51, and 52 to 57. Missing data also included items in these sets in which both responses in a paired comparison item were selected.

Procedures for Data Analysis

A number of different techniques were applied to the data of this investigation. Techniques were chosen in terms of their appropriateness in meeting research objectives and in relation to requirements for level of measurement of the data.

Factor analysis was used as a descriptive tool to summarize and simplify interpretations of the data obtained from Likert scale items (Harman, 1960, p. 5; Holzinger & Harman, 1941, p. 3). The primary purpose in applying this technique was to provide a degree of empirical support for the ten hypothesized dimensions of commitment represented in the measurement instrument. Both orthogonal and oblique analyses were done with rotation. An advantage of orthogonal solutions is the clarity in interpretation (Holzinger & Harman, 1941, p. 91). Of the different types of orthogonal rotation the varimax has the advantage of best satisfying the ultimate rotation objectives of simple structure and factorial invariance (Harman, 1960, p. 307). Oblique analysis, while generally more difficult to interpret, has the advantage of being more flexible because the factor axes need not be uncorrelated. The oblique solution is desirable when no assurances exist that the theoretically important underlying dimensions are unrelated to one another. A complete oblique solution is described by both the factor structure and factor pattern

matrix, although the latter is reported to facilitate clearer identification and naming of factors (Holzinger & Harman, 1941, p. 253). The factor analytic model is predicated on the assumption of normal distribution of variates (Harman, 1960, p. 382).

A conservative approach was taken to the generalization of findings stemming from factor analysis. Holzinger and Harman indicate that generalizations may be made by conventional methods providing that the population, set of variables, and form of solution are fixed (1941, p. 108). Fruchter states that generalizations to a carefully defined population necessitate a representative sample of that population (1954, p. 200). The indeterminateness of factor solutions, however, is well documented. "Systems of orthogonal, or uncorrelated, factors may be chosen, *consistent with the observed correlations*, in an infinity of ways" (Harman, 1960, p. 21). Although findings of this study are true for the population of nurse respondents, the extent to which generalizability of findings can be made or is appropriate remains uncertain due to the indeterminancy of the factor problem.

Factor scores were calculated for each nurse once the most useful factor analytic solution in terms of the conceptual framework and statistical criteria was obtained. Differences in level of commitment among nurses grouped by specialty were analyzed through calculation of mean factor scores. The computation of mean factor scores allows for comparison of the relative positions (Janson, 1969, p. 338) of groups of nurses on each factor or dimension of commitment. Observed differences are real for the population of nurses participating in this investigation. Subjective numerical classification based on similarities in mean factor

scores was used to categorize the nine groups of nurses for purposes of description and interpretation.

Q analysis (Cattell, 1969, p. 90) was used to place nurses within categories based on underlying similarities in relation to commitment dimensions. This technique is one special case of factor analysis in that it is based on the transposed raw data matrix and thus involves the correlation of a series of persons over a population of measures (Fruchter, 1954, p. 197). However, application of this technique to the transposed data matrix of 499 variables (nurses) and 34 subjects (items) was technically unmanageable. An alternative transposed data matrix was used containing the mean item responses for groups of nurses categorized by hospital, specialty, and unit. Utilizing mean item responses of defined nursing groups for the matrix data base has the tendency of averaging out individual effects in the data, thereby achieving a more interpretable solution and improving the manageability of the data set. The transposed data matrix to which Q technique was applied comprised 71 variables (nurses grouped by hospital, specialty, and unit) and 34 subjects (items). However, it is important to note that the Q analysis findings must be interpreted cautiously due to linear dependencies (Cattell, 1969, pp. 98-102) stemming from the greater number of variables (nursing groups) than subjects (items). Further, a Q technique solution based on mean responses may not parallel a Q technique solution based on individual nurse responses.

Scaling procedures (Torgerson, 1965) were used to examine the relative order of various facets of the nursing job for each specialty, whereas mean factor scores were utilized to explore the relative order

of nursing specialty groups on a commitment factor. The two different analyses are mutually complementary yet different from one another. The former permits a profile description of each specialty group in terms of the relative positions of commitment components; in contrast, the latter permits a profile description of each factor in terms of the relative positions of specialty groups. Scaling procedures have been used to overcome difficulties in the quantification of qualitative data through converting ordinal data to interval or ratio data (Torgerson, 1965, p. 55). The scaling technique used was based on Thurstone's comparative judgement scaling model (pp. 150-58).

Each set of stimuli for which scale values were to be developed was measured in terms of degree of relative commitment. This was comprised of four dimensions: degree of relative commitment to persons in the work place, employment areas, nursing tasks, and co-ordinative mechanisms.

With respect to the degree of commitment to persons in the work place, for example, the underlying assumption of the model is that there is a series of stimuli (persons in the work place) to which subjects (nurses) can respond with respect to a given attribute (degree of relative commitment to persons in the work place). The model enables persons in the work place to be located on a continuum of relative commitment in a way that accounts for nurses' responses.

In terms of this investigation and, for example, the degree of relative commitment to persons in the work place, Thurstone's model based on the law of comparative judgement necessitated the following assumptions: (1) When presented to a nurse each stimulus (peers, physicians, patients'

families) gives rise to a discriminal process which has a value on the continuum of interest, in this case, the degree of relative commitment to persons in the work place.

(2) A particular stimulus does not always produce the same discriminal process for each nurse--the discriminal process may have a higher or lower value on the continuum. If the stimulus is presented to a large number of nurses a frequency distribution will be associated with it.

(3) The values of the discriminal processes associated with a particular stimulus are such that the stimulus has associated with it a normal frequency distribution. For the dimension in question, in this case the degree of relative commitment to persons in the work place, the mean and standard deviation of the normal frequency distributions for each stimulus (peers, physicians, patients' families) are taken as its scale value and discriminal dispersion respectively.

(4) When two stimuli are presented together, for example, peers and physicians, each excites a discriminal process for every nurse and over a large number of nurses the differences between these processes forms a normal distribution on the continuum of interest, the degree of relative commitment to persons in the work place. The difference between two discriminal processes for two stimuli such as peers and physicians becomes the difference in their scale values.

Paired comparisons was the experimental method used for developing the scale values. This method involved the comparison of each stimulus with every other stimulus for each of the four dimensions of relative commitment. The stability of scale values improves with

increases in the number of times pairs of stimuli are compared, in this case, by including as many nurses as possible. Two major advantages are characteristic of the paired comparison method: no equality judgements are allowed so nurses are forced to make a choice, and transitivity is not forced on the data (Torgerson, 1965, p. 55). A disadvantage of the paired comparison method is that the number of comparisons that must be made in order to exhaust all possible comparison of stimuli in pairs is generally large. In order to avoid error in responses due to fatigue the number of comparisons to be made must be minimized. In this investigation, 22 paired comparison items or approximately one-third of the questionnaire items represented measurement of the four dimensions of relative commitment.

Validity of the Measure

Reliability of a measure refers to its stability or internal consistency (Kerlinger, 1964, p. 430) and is dependent upon agreement of similar methods of measuring the same traits over repeated measures, either by parallel forms in the same time frame or different time frames (Cronbach, 1970, p. 174). In contrast, validity of a measure refers to the extent to which a test measures what it was designed to measure (Kerlinger, 1964, p. 445).

Of the two facets of measurement, validity is the more important. Reliability is a necessary but not sufficient condition in measurement as a test may consistently measure a trait yet not measure the trait intended. The establishment of valid measures precludes the need for establishing reliable measures. It is important to note that the

absolute validity of a measure cannot be declared; a measure can possess some degree of validity but it cannot be said to have total or no validity.

Five types of validity have been described: face, content, concurrent, predictive, and construct. Face validity is the weakest of all forms and refers to the acceptability and reasonableness of a test. Face validity should be assessed in terms of the persons administering the test and those taking the test. In this particular case, instrument development based on the professional judgement of nurses in academia, administration, and clinical practice would promote face validity. Adequate response rates and the quality of questionnaire completion could serve as a basis in evaluating face validity for those taking the test. Content validation of a measure refers to the degree to which the content measured is representative of all possible content (Kerlinger, 1964, p. 446). For this investigation the universe of content as a basis for measurement of commitment in nurses was not known. Both predictive and concurrent validity are characterized by prediction to an outside criterion (p. 447) and involve comparison of a test with an independent measure of the test content or expected outcome. For the purposes of this study an independent criterion measure of nurses' commitment was not known to exist.

Construct validity is defined as the degree to which some postulated attribute is measured by a test, in this case a hypothesized dimension of commitment. The attribute or construct is assumed to be reflected in the test measures (Cronbach & Meehl, 1955, p. 282). This type of validation is useful when no criterion measure of a construct

exists (Kerlinger, 1964, p. 449), as in this investigation. A measure which possesses both convergent and discriminant validity may be considered a construct valid measure (Campbell & Fiske, 1959, p. 81). In other words, measures of the same construct by different methods must correlate higher than they do with measures of other constructs obtained by the same or different methods. A comprehensive assessment of construct validity based on the preceding definition was not possible due to the absence of two known independent measures of the commitment construct. A weaker approach has been used to establish construct validity: the extent to which hypothesized commitment dimensions are found through factor analysis. In terms of the questionnaire used in this study, items intended as measures of the same hypothetical commitment dimension would, if construct valid, tend to have relatively high loadings on the same factor. Accordingly, the extent to which the factor solution approached simple structure was suggestive of the degree of construct validity. A numerical indicator of validity can generally be considered the proportion of variance in responses explained by the factor solution.

Confirmation of expected differences among groups through empirical findings is also suggestive of construct validity. From this perspective, the empirical observation of expected differences in mean factor scores and ordering of scaling stimuli among nursing groups in addition to Q technique findings were considered supportive of construct validity.

CHAPTER IV

PRESENTATION AND ANALYSIS OF THE DATA

In this chapter the investigator reports the research findings and discusses them in terms of nursing practice. The results of factor analyses are presented and differences among nursing specialties are discussed in terms of mean factor scores. The results of Q technique used to categorize nurses on the basis of commitment as a whole are then analyzed. Following these analyses, data obtained via dichotomous forced choice items are examined in terms of the scaling technique of paired comparisons.

Before proceeding, attention is drawn to the treatment of missing data cases in the factor analytic procedures. As a systematic component may be associated with missing data cases, a conservative approach was taken by repeating the analyses in the text in appendices using only observations from completed cases (see Appendices B and C).

Commitment Factors

Initially an orthogonal principle axis solution was sought using all 45 Likert scale items as variables. Fifteen factors having eigenvalues greater than one explained 63.1% of the total variance in responses. A series of eight factor analyses constrained the orthogonal solution to first eleven factors and then successively reduced the number from nine to three. The aim in this procedure was to find the most

interpretable solution in terms of the conceptual framework and prior empirical research while still explaining a reasonable proportion of the total variance in responses. The best solution in terms of the preceding criteria was the seven factor orthogonal solution with varimax rotation explaining 41.2% of the total variance.

At this juncture, a number of items (5, 8, 14, 29, 33, 58-62, 65) were eliminated from further analyses. These items shared little variance with any of the seven factors, accordingly, their contribution to the measurement and description of commitment was considered negligible. The low shared variance of these items with all seven factors was possibly a consequence of poor item measurement or inappropriate choice of items representing variables pertinent to hypothetical commitment dimensions.

An orthogonal principle axis solution was again sought--this time using the 34 remaining items as variables. Eleven factors with eigenvalues greater than one explained 63% of the total variance in responses (see Table 6). The seven factor orthogonal analysis with varimax rotation was repeated on the 34 remaining items, resulting in the factor solution shown in Table 7. The seven factors together account for 49.8% of the total variance in responses. Of this 49.8%, Factors I through VII respectively account for 9.5%, 8.18%, 6.91%, 6.7%, 6.41%, 6.06%, and 6.0% of the total variance in nurses' responses to 34 items.

In order to convey the meaning of the seven factors, each is described in terms of those items loading at .40 or greater. It is important, nevertheless, to interpret each factor in terms of all loadings, whether high or low, as each contributes to the underlying essence of the factor.

Table 6

Orthogonal Principle Axis Solution -

Eigenvalues Greater Than One

Factor	Eigenvalue[a]
1	4.52 (3.23)
2	2.76 (2.78)
3	2.46 (2.35)
4	2.05 (2.28)
5	1.91 (2.18)
6	1.65 (2.06)
7	1.51 (2.04)
8	1.27
9	1.13
10	1.04
11	1.00

Note. The above solution is based on the 34 Likert scale items selected and entered as variables in obtaining the final factor solution.

[a]Enclosed in brackets are the eigenvalues corresponding to the seven factor orthogonal solution varimax rotation.

Table 7

Factor Analysis - Orthogonal Solution Varimax Rotation

Item Number	Item Content	Communalities	Factors[a]						
			I	II	III	IV	V	VI	VII
1	Peer socializing	.324	.520	.057	.204	.052	.081	.002	-.009
2	Peer support	.530	.719	-.082	.046	.049	-.007	-.023	-.036
3	Peer communication	.529	.702	.143	-.012	.069	.097	.013	.045
4	Peer teamwork	.587	.753	-.012	.063	-.093	.060	-.004	-.059
31	Unit support	.416	.531	.015	-.010	.356	.077	.017	.030
34	Unit membership	.441	.580	.027	.212	.176	.147	.051	-.066
27	Specialty versus other specialties	.379	.209	.481	-.040	.070	-.009	-.312	.007
28	Specialty preference over time	.578	.212	.468	-.048	.541	.098	-.069	.064
35	Unit physicians preferred	.380	.040	.517	.025	-.084	.309	.086	-.017
36	Patient prognoses preferred	.658	-.004	.795	.004	-.005	-.085	.123	-.056
37	Patient health problems preferred	.719	.005	.842	.019	.012	-.080	.030	.042
38	Patient age groups preferred	.560	-.062	.741	.034	.060	-.039	.001	.001
15	Patient representative	.542	.274	.008	.643	-.111	.185	.080	-.027
16	Family representative	.556	.246	.026	.660	-.145	.123	.090	.121
17	Patient information	.669	.013	.001	.797	.175	-.019	.016	.040
18	Family information	.652	-.013	.012	.771	.218	-.013	.013	.101
30	Unit preference over time	.574	.411	.229	-.077	.552	.139	-.148	.017
23	Nursing without economic need	.396	.055	-.031	.061	.567	.066	.247	.025
24	Nursing versus other jobs	.256	-.025	-.039	.172	.471	.055	.000	.005
26	Hospital preference over time	.463	.161	.015	.021	.602	.202	-.159	-.088
6	Physician liking	.629	.039	.019	.015	.153	.772	-.030	.063
7	Physician respect	.677	.066	.072	.073	.153	.797	.043	-.048
9	Physician-nurse teamwork	.414	.383	-.017	-.053	.135	.478	-.134	.012
10	Physician assistance	.401	.018	-.099	.153	.035	.596	.110	.000
25	Hospital versus other hospitals	.312	.211	.027	-.094	.013	.217	-.457	.041
32	Loyalty to nursing unit	.244	.046	-.049	-.044	-.063	-.024	-.476	.077
63	Loyalty to nursing profession	.429	.093	.131	.055	-.283	.061	.562	-.027
64	Control by nursing profession	.329	.077	.119	.130	-.212	.103	.484	.048
66	Nursing inservice attendance	.482	.053	-.151	-.118	.305	.095	.548	.202
67	Plans for formal nursing education	.407	.032	-.094	-.016	.137	-.018	.606	.105
11	Concern for patients	.824	-.122	.021	.047	-.022	-.026	.026	.897
12	Concern for patients' families	.824	-.114	.007	.036	.020	-.024	-.034	.899
13	Personal patient contact	.366	.287	-.045	.206	-.078	.099	.072	.467
22	Desire for nursing in future	.322	.066	.037	-.085	.394	.019	.359	-.157
		16.93	3.23	2.78	2.35	2.28	2.18	2.06	2.04

Note. Items have been reordered from the original questionnaire (see Appendix A) for ease in viewing loadings of .40 and greater on each factor.

[a]Loadings of .40 and greater are underlined.

Factor I: Nursing Unit Peers

Factor I primarily describes the degree to which attachment to peers on the nursing unit is present, to the extent that companionship of peers is enjoyed while off the nursing unit (item 1) and work is characterized by esprit de corps (item 2), open communication (item 3), and teamwork (item 4). It is not surprising, then, that Factor I also describes the degree of attachment to the nursing unit, to the extent that verbal recommendations of the unit are made (item 31), a preference exists for continuing employment on the unit (item 30), and strong feelings of belonging or membership exist (item 34). This factor is labelled "nursing unit peers". Items with loadings equal to or greater than .40 on the Nursing Unit Peers factor are as follows:

Item	
1.	I enjoy sharing coffee and lunch breaks with nurses on my unit.
2.	Nurses on my unit encourage each other to work together as a team.
3.	Information about important events or situations is shared among the nurses on my unit.
4.	Nurses on my unit provide each other with the help they need to complete their work on time.
30.	Would you choose to return to a job on the nursing unit on which you now work if you had to stop nursing for a while?
31.	I would advise another nurse to work on this nursing unit.
34.	I feel a part of my nursing unit.

Factor II: Clinical Specialty

Factor II describes aspects of commitment which relate the degree to which attachments are made to a clinical specialty area and its task environment. Attachment to clinical specialty and its task environment exists when a choice is made to continue in a specialty area in the face of new alternatives (item 27) and when preference for a specialty area exists over time (item 28). Furthermore, preference exists for working with a particular type of doctor (item 35) and nursing patients having certain prognoses (item 36), health problems (item 37), and ages (item 38). This factor is labelled "clinical specialty". Items with factor loadings of .40 or greater are as follows:

Item

27. If offered a job in a different nursing specialty in the hospital in which you now work, would you change specialties?

28. Would you choose to return to a job in the same nursing specialty if you had to stop nursing for a while?

35. I prefer working with the type of doctors associated with this nursing unit (as opposed to other types of doctors).

36. I prefer nursing patients having prognoses similar to those of patients on this nursing unit (as opposed to patients having other prognoses).

37. I prefer nursing patients having health problems similar to those of patients on this nursing unit (as opposed to patients having other health problems).

38. I prefer nursing patients of ages similar to the ages of patients on this nursing unit (as opposed to patients in other age groups).

Factor III: Advocacy Role

Factor III describes aspects of commitment primarily related to

an advocacy role through liaison and communication with patients, their families, and health personnel. This role involves responsibility for representing patients' (item 15) and patients' families' (item 16) interests to other health workers, as well as responsibility for maintaining the right of patients (item 17) and their families (item 18) to information. This factor is labelled "advocacy role". Items with loadings of .40 or greater are as follows:

Item	
15.	Nurses are responsible for communicating the concerns of patients to physicians or other health workers.
16.	Nurses are responsible for communicating the concerns of patients' families to physicians or other health workers.
17.	Seeing that requests for information from patients are met is a nurse's responsibility.
18.	Seeing that requests for information from patients' families are met is a nurse's responsibility.

Factor IV: Long Term Job Continuance

Factor IV generally describes the degree to which attachments are present to continue in a particular nursing job in the future. Inherent in this type of commitment is a desire to do nursing work versus other work (item 24) and a desire to practice nursing for reasons other than economic necessity (item 23). Although the desire to continue nursing in the future is present (item 22 loads just below .40), it is constrained within a particular setting: the current specialty (item 28), hospital (item 26), and nursing unit (item 30) in which one is employed. The low factor loadings of two items pertinent to job continuance (items 25 and 27) likely stem from their emphasis on immediate plans for

continuing in the current nursing job as opposed to long term plans for continuing employment. This factor is labelled "long term job continuance". Items with loadings of .40 or greater on this factor are as follows:

Item

23. Would you continue nursing if you did not need the money?

24. How likely would you be to continue nursing work if offered a non-nursing job for the same pay?

26. Would you choose to return to a job in this hospital if you had to stop nursing for a while?

28. Would you choose to return to a job in the same nursing specialty if you had to stop nursing for a while?

30. Would you choose to return to a job on the nursing unit on which you now work if you had to stop nursing for a while?

Factor V: Physicians

Aspects of commitment peculiar to Factor V relate the degree to which attachments are made to a specific member of the health team, the physician. Factor loadings indicate that attachment to physicians exists to the extent that physicians are liked (item 6) and respected for their work (item 7), are perceived as working with nurses in a team relationship (item 9), and to the extent that nurses take pride in assisting physicians (item 10). Furthermore, preference for unit physicians (item 35) is inherent in this type of commitment although this item loads just below .40. This factor is labelled "physicians". Items with loadings of .40 or greater on the Physician factor are as follows:

Item

6. I like most physicians associated with this nursing unit.

7. I respect most physicians associated with this nursing unit.

9. I belong to a team of physicians and nurses who support one another.

10. I enjoy assisting doctors with medical procedures.

Factor VI: Profession

Factor VI describes aspects of commitment which relate to the ideology of nursing as a profession, encompassing educational goals both on (item 66) and off the job (item 67), and greater loyalty to the profession relative to both the hospital (item 63) and nursing unit (item 32, due to reverse scoring a negative loading indicates loyalty to nursing). Support for professional control over nursing practice in hospitals (item 64) also characterizes attachment to the nursing profession.

Current organizational attachment to hospital (item 25), unit (item 32), and specialty (item 27) load negatively with this factor, although the latter loads below .40. Professional attachment and lack of attachment to current employment area are considered aspects of a single characteristic, attachment to profession. This finding and interpretation appear supported by researchers describing varying degrees of conflict between attachments to organization and profession (Alutto et al., 1972; Davis, 1962; Gouldner, 1957; Habenstein & Christ, 1955). This factor is labelled "profession". Items with loadings of .40 or greater are as follows:

Item

25. If offered a job in the same nursing specialty but in a different hospital, would you accept the new job?

32. My loyalty is to nursing, not my nursing unit.

63. Nurses should place loyalty to the profession above loyalty to the hospital.

64. The nursing profession should have more control over nursing practice in hospitals.

66. Would you attend nursing inservice education if it happened to be scheduled on your day off?

67. Do you plan to further your nursing education in the next 5 years?

Factor VII: Patient-Family Involvement

Factor VII generally relates the degree of involvement nurses experience with patients and their families. Factor loadings indicate that patients' problems (item 11) and their families' problems (item 12) are of concern to the nurse during off duty hours. In addition, nurses like to know their patients personally (item 13). Other items having content relating to patients and their families which do not load highly with this factor are items 15-18. This finding was anticipated as these items encompass responsibility for a specific role not necessarily related to emotional involvement in that role. This factor is labelled "patient-family involvement". Items which load at .40 or greater are as follows:

Item

11. I take my patients' problems home with me.

12. I take the problems of my patients' families home with me.

13. I like to get to know my patients personally.

It is valuable to note, at this point, the high degree of similarity between the preceding factor solution and the more conservative

solution based on fully completed responses (see Appendix B). With regard to the latter, seven highly similar factors emerge explaining 50.0% of the total variance. The relative invariance of the factor structure, whether based upon data from partially incompleted cases or completed cases, suggests that no systematic component is related to non-response.

An oblique solution of seven factors was also examined. Although the primary factor and reference vector solutions (pattern and structure) are fairly similar to the orthogonal solution, the interpretation of the factors in terms of the conceptual framework is less clear (see Table 8). Five factors in the orthogonal varimax solution appear in the oblique solution: Nursing Unit Peers, Clinical Specialty, Advocacy Role, Physicians, and Patient-Family Involvement. Even in the case of the Long Term Job Continuance and Profession factors, which would be named differently in the oblique solution, there is close agreement between variables common to the two factors of both solutions. The congruence between five of seven factors suggests their relative stability across both solutions. In comparison, the Long Term Job Continuance and Profession factors appear less stable across orthogonal and oblique factor solutions. As Table 9 illustrates, correlations among factors are sufficiently low to allow for acceptance of comparative orthogonality between factors. Factor solution interpretation, however, should take account of the correlation of -.268 between Factors I and III, Nursing Unit Peers and Advocacy Role.

Table 8

Factor Analysis - Oblique Primary Factor Structure Solution

Item Number	Item Content	Factors[a]						
		I	II	III	IV	V	VI	VII
1	Peer socializing	.543	-.106	-.187	-.237	.015	-.015	.018
2	Peer support	.713	.040	-.128	-.101	.025	-.054	-.033
3	Peer communication	.720	-.200	-.224	-.058	.049	-.020	.022
4	Peer teamwork	.731	-.017	-.059	-.102	-.058	.052	-.060
9	Physician-nurse teamwork	.421	-.041	-.553	-.013	-.001	-.171	-.001
30	Unit preference over time	.491	-.333	-.309	.008	.243	-.492	-.000
31	Unit support	.582	-.103	-.231	-.054	.243	-.227	.034
34	Unit membership	.614	-.098	-.272	-.300	.154	-.063	-.050
27	Specialty versus other specialties	.240	-.500	-.053	.039	-.198	-.251	-.040
28	Specialty preference over time	.300	-.551	-.235	-.022	.288	-.414	.029
35	Unit physicians preferred	.074	-.513	-.316	-.035	-.011	.159	-.015
36	Patient prognoses preferred	.020	-.786	.058	.004	.059	.131	-.075
37	Patient health problems preferred	.037	-.833	.042	-.010	-.011	.052	.016
38	Patient age groups preferred	-.021	-.736	.004	-.033	.007	-.008	-.023
6	Physician liking	.134	-.059	-.785	-.073	.079	-.098	.066
7	Physician respect	.158	-.110	-.817	-.128	.129	-.058	-.030
10	Physician assistance	.077	.083	-.587	-.191	.105	.069	.029
15	Patient representative	.315	-.017	-.252	-.654	-.036	.187	.029
16	Family representative	.272	-.017	-.185	-.665	-.045	.242	.153
17	Patient information	.093	-.010	-.073	-.806	.089	-.059	.085
18	Family information	.059	-.031	-.084	-.783	.122	-.084	.135
22	Desire for nursing in future	.097	-.074	-.097	.015	.542	-.064	-.190
23	Nursing without economic need	.128	-.047	-.164	-.171	.563	-.221	.020
32	Loyalty to nursing unit	.047	.043	.024	.078	-.405	-.272	.067
66	Nursing inservice attendance	.061	-.096	-.139	.020	.619	.153	.229
67	Plans for formal nursing education	.036	.087	-.017	-.054	.539	.299	.137
26	Hospital preference over time	.262	-.120	-.320	-.085	.268	-.536	-.086
63	Loyalty to nursing profession	.059	-.093	-.031	-.088	.224	.594	.002
64	Control by nursing profession	.066	-.096	-.095	-.143	.202	.513	.091
11	Concern for patients	-.138	.007	.044	-.064	.001	.043	.889
12	Concern for patients' families	-.123	.012	.026	-.051	-.005	-.031	.887
13	Personal patient contact	.300	.048	-.142	-.237	.003	.121	.488
24	Nursing versus other jobs	.035	-.017	-.136	-.240	.327	.323	-.012
25	Hospital versus other hospitals	.246	-.038	-.247	.114	-.331	-.321	.038

Note. Items have been reordered from the original questionnaire (see Appendix A) for ease in viewing loadings of .40 and greater on each factor.

[a]Loadings of .40 and greater are underlined.

Table 9

Factor Analysis--

Correlation Among Oblique Primary Factors

Factor	I	II	III	IV	V	VI	VII
I	1.0000						
II	-.1166	1.000					
III	-.2682	.0873	1.000				
IV	-.1465	.0071	.1396	1.000			
V	.0484	-.0312	-.1151	-.1034	1.000		
VI	-.0984	.0477	.0874	-.0625	.0326	1.000	
VII	.0078	.0425	-.0330	-.0921	.0022	.0501	1.000

Differences in Commitment Level Among Nursing Specialty Groups

Analysis of mean factor scores was used to examine differences among nursing groups in terms of the seven factors. Differences between the nine specialties in relation to each of the seven factors are evident (see Table 10). These differences should be interpreted in terms of the population at hand, the 499 respondents whose responses entered into the factor analytic procedures, and not the population of Edmonton nurses from which the sample was drawn.

To convey the essential nature of the above differences, each nursing specialty group is ordered along a continuum representing each factor on the basis of mean factor score. In this manner, the relative level of commitment of nursing specialty groups on each of the seven commitment factors is identified. Nursing specialties are grouped through subjective numerical classification of mean factor scores to highlight similarities and facilitate description and interpretation of the data (see Appendix D for a graphic representation of differences between specialties on each factor).

Factor I: Nursing Unit Peers

In relation to the Nursing Unit Peers factor three distinct groupings are evident. The nurses most committed to peers are rehabilitative and acute cancer nurses. Cancer nurses score higher in commitment to peers within this grouping and highest among all specialties. Obstetrical, intensive care, auxiliary, and psychiatric nurses comprise a grouping characterized by middle range commitment to peers. Within this

Table 10

Mean Factor Scores of Nurses Grouped by Specialty

Specialty	Factors			
	Nursing Unit Peers	Clinical Specialty	Advocacy Role	Longterm Job Continuance
PAEDS (54)[a]	-.283	.257	.178	.046
OBS (55)	-.047	.473	-.018	-.082
REHAB (62)	.297	-.328	-.098	.380
ICU (64)	.034	.256	.161	-.053
AUX (53)	.040	-.584	.013	.193
PSYCH (59)	.066	.328	-.166	-.052
SURG (60)	-.234	.259	-.042	-.134
MED (57)	-.251	-.315	-.006	-.328
CANCER (35)	.415	-.538	.045	.041

Specialty	Factors cont.		
	Physicians	Patient-Family Involvement	Profession
PAEDS (54)[a]	-.141	.058	-.130
OBS (55)	.036	-.213	.018
REHAB (62)	-.118	-.130	-.176
ICU (64)	-.041	.188	.149
AUX (53)	.220	-.110	.161
PSYCH (59)	-.198	-.025	-.042
SURG (60)	-.126	-.051	.177
MED (57)	.262	-.220	.008
CANCER (35)	.230	.751	-.238

Note. Mean factor scores have $\mu = 0$ and $\sigma^2 = 1$.

[a]Enclosed within brackets are the number of questionnaires in each specialty on which scores were based.

group, obstetrical, intensive care, auxiliary, and psychiatric nurses score lowest to highest respectively. The grouping lowest in commitment to peers comprises pediatric, medical, and surgical nurses; pediatric nurses score lowest in commitment to peers within this group and among all nursing specialty groups. The ordering of nursing specialty groups in relation to the Nursing Unit Peers factor is depicted in Figure 2.

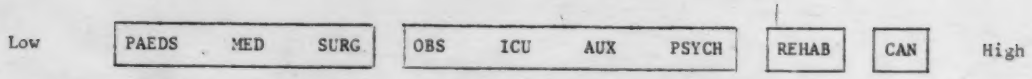
Factor II: Clinical Specialty

Four major groupings of nursing specialties are apparent in terms of commitment to clinical specialty. Obstetrical nurses comprise one group, scoring highest in commitment to clinical specialty. A grouping characterized by commitment to clinical specialty in the high-middle range is comprised of intensive care, pediatric, surgical, and psychiatric nurses; intensive care and psychiatric nurses score lowest to highest respectively within this group. Medical and rehabilitative nurses form a third group characterized by low-middle range commitment to clinical specialty. Acute cancer and auxiliary nurses form the fourth group, lowest in commitment to clinical specialty; acute cancer nurses score lower although differences in scores are minimal. The ordering in terms of the Clinical Specialty factor is depicted in Figure 2.

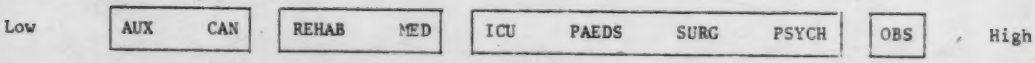
Factor III: Advocacy Role

In relation to the Advocacy Role factor four groupings are apparent. Pediatric nurses score highest in commitment to advocacy role followed closely by intensive care nurses. These two nursing specialties form one group. A second group characterized by high-middle range

Factor I - Nursing Unit Peers



Factor II - Clinical Specialty



Factor III - Advocacy Role

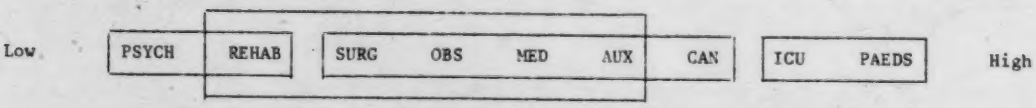
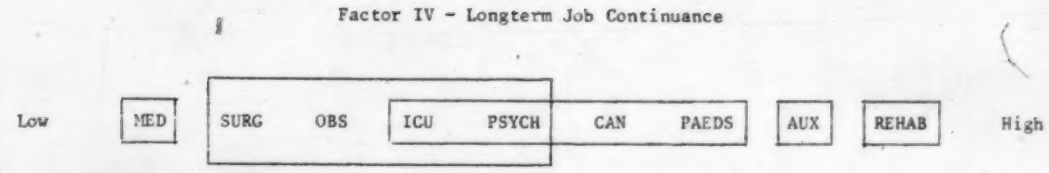


Figure 2: Nurses grouped by specialty, ordered on Factors I-III. (Nursing groups enclosed within the same box indicate greater similarity in mean factor scores relative to groups in alternate boxes.)

commitment to advocacy role is made up of the following specialty groups in descending order of score: acute cancer, auxiliary, medical, obstetrical, and surgical nurses. Rehabilitative nurses group both with surgical, obstetrical, medical, and auxiliary nurses forming a third group lower in commitment to advocacy role than the preceding two groupings, and with psychiatric nurses forming a fourth group lowest in commitment to advocacy role. Psychiatric nurses score lowest in commitment to advocacy role compared with any other nursing specialty group. The ordering of nursing specialty groups in terms of the Advocacy Role factor is depicted in Figure 2.

Factor IV: Long Term Job Continuance

In relation to the Long Term Job Continuance factor, a greater number of singleton groupings are evident than for any other factor. In all, five groupings are observed; three of these are singleton groupings. Rehabilitative nurses score highest in commitment to long term job continuance followed by auxiliary nurses; each comprises one group. Pediatric, acute cancer, psychiatric, and intensive care nurses order next in commitment to job continuance and form a third group. Psychiatric and intensive care nurses also group with obstetrical and surgical nurses forming a fourth group scoring lower in commitment to long term job continuance than the pediatric, acute cancer, psychiatric, and intensive care grouping. Medical nurses comprise the third singleton grouping and score lowest in commitment to job continuance compared with any other nursing group. The order of nursing specialty groups in terms of the Long Term Job Continuance factor is illustrated in Figure 3.



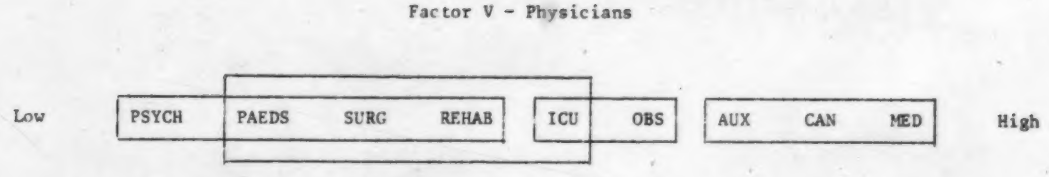


Figure 3: Nurses grouped by specialty, ordered on Factors IV and V. (Nursing groups enclosed within the same box indicate greater similarity in mean factor scores relative to groups in alternate boxes.)

Factor V: Physicians

Four major groupings of nursing specialties are apparent in relation to the Physician factor. Auxiliary, acute cancer, and medical nurses score highest in commitment to physicians and comprise one grouping. Within this group, auxiliary nurses score lowest and medical nurses highest. Intensive care and obstetrical nurses group together, scoring lower in commitment to physicians than the auxiliary, acute cancer, and medical grouping. Intensive care nurses group a second time with rehabilitative, surgical, and pediatric nurses and score lower in commitment to physicians than the intensive care and obstetrical grouping. Pediatric, surgical, and rehabilitative nurses group a second time with psychiatric nurses and score lowest in commitment to physicians of the four groups. Psychiatric nurses score lowest among all nursing specialties. The ordering of nursing specialty groups in terms of the Physicians factor is depicted in Figure 3.

Factor VI: Profession

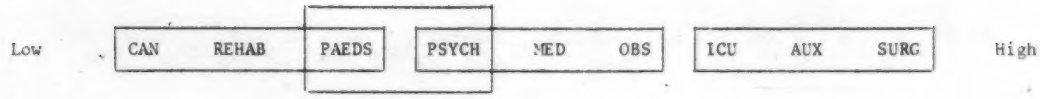
Four groups of specialties are identified in terms of commitment to profession. One group comprises those nursing specialties highest in commitment to profession and in ascending order of score are intensive care, auxiliary, and surgical nurses. Psychiatric, medical, and obstetrical nurses comprise a second group characterized by middle range commitment to profession. Within this grouping obstetrical and psychiatric nurses score highest and lowest respectively. Psychiatric nurses group a second time with pediatric nurses, forming a third group lower in commitment to profession than the psychiatric, medical, and

obstetrical grouping. A fourth group is comprised of those specialty groups scoring lowest in commitment to profession: acute cancer, rehabilitative, and pediatric nurses. Pediatric nurses score highest within this group while acute cancer nurses score lowest among all nursing specialty groups. The ordering of specialty groups in terms of the Profession factor is illustrated in Figure 4.

Factor VII: Patient-Family Involvement

In terms of the Patient-Family Involvement factor, five groupings are evident. Acute cancer nurses make up one group, scoring remarkably higher in commitment to patient-family involvement relative to other nursing specialties. Intensive care nurses form a second group ordering next to the acute cancer group. Pediatric, psychiatric, and surgical nurses comprise a third group scoring lower in commitment to patient-family involvement than the preceding specialty groups. Surgical and psychiatric nurses group a second time with auxiliary and rehabilitative nurses forming a fourth group second to lowest in terms of commitment to patient-family involvement. Rehabilitative and auxiliary nurses also group a second time with obstetrical and medical nurses. Of the five groupings the latter scores lowest in commitment to patient-family involvement. Medical nurses score lowest in commitment to patient-family involvement among all specialty groups. Figure 4 illustrates the ordering of nursing specialty groups in terms of the Patient-Family Involvement factor.

Factor VI - Profession



Factor VII - Patient-Family Involvement

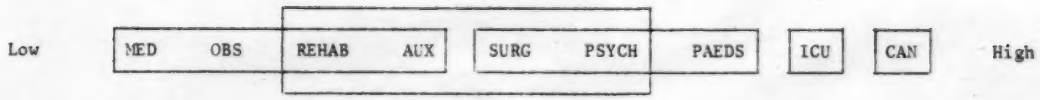


Figure 4: Nurses grouped by specialty, ordered on Factors VI and VII. (Nursing groups enclosed within the same box indicate greater similarity in mean factor scores relative to groups in alternate boxes.)

Summary and Conclusions Based on Mean Factor Score Differences

In terms of each factor differences can be observed in commitment level among nursing specialty groups. It is important for later interpretation to note differences in the categorization and ordering of specialty groups across the seven factors. A nursing specialty may order relatively high on one commitment factor yet relatively low on another. For instance, acute cancer nurses order highest in commitment to peers and patient-family involvement, yet lowest in commitment to profession and clinical specialty. These findings appear somewhat logical from a nursing perspective. Acute cancer nurses are primarily care as opposed to cure oriented. As the knowledge and art of caring is highly uncertain and individualized, high peer and patient-family involvement tend to be fostered. Patients generally are older and have poor prognoses with little hope for recovery. The specialty task environment may be relatively undesirable with consequences for low commitment to clinical specialty.

Obstetrical nurses order highest in commitment to clinical specialty and relatively low in commitment to patient-family involvement. High commitment to clinical specialty was expected as the obstetrical task environment is characterized by a wellness orientation: patients are relatively young and prognoses excellent as a rule. Low commitment to patient-family involvement was anticipated because of the very fact that most patients are young, healthy, and their care generally predictable. Although the trend in the past decade has been that of involving fathers more in the birth process, the involvement of nurses with fathers may be one more related to task accomplishment than the involvement

nurses experience at a personal level, characteristic of commitment to patient-family involvement.

Rehabilitative nurses order highest followed by auxiliary nurses in commitment to long term job continuance, relatively high in commitment to peers, and relatively low in commitment to profession. Relatively high commitment to long term job continuance may reflect the physical separation of rehabilitative and auxiliary care facilities from acute general hospitals. Practice in these specialty areas necessitates continued employment within the hospital itself. The relatively high commitment to peers among rehabilitative and acute cancer nursing groups seems congruent with work emphasizing socio-psychological adjustments to illness or deformity.

Pediatric nurses order highest followed by intensive care nurses in commitment to advocacy role, yet relatively low in commitment to profession. The former was anticipated as these two specialties revolve about the most dependent of patient populations: the young and most critically ill. There is a particularly crucial need for nurses in these specialties to act in the interest of patients as clearly they are unable to do so themselves.

With reference to the Profession factor, nursing specialties ordering relatively low are those which tend to emphasize both physiological and socio-psychological aspects of health care: acute cancer, rehabilitative, and pediatric nursing groups. These nurses may practice within relatively fuzzy boundaries of expectations and priorities due to potential conflicts in care-cure functions and relative unknowns associated with the socio-psychological knowledge base. Disillusionment with

nursing ideals and lowered level of commitment to profession may result. The high commitment to profession of intensive care, auxiliary, and surgical nurses supports the preceding discussion, as these are specialties in which patient care priorities are more clearly understood and accepted as necessary to patient care success.

Medical nurses order highest in commitment to physicians, grouping with auxiliary and acute cancer nurses, and lowest in commitment to long term job continuance. The structure of medical nursing units more often than not parallels specialization in medicine. Identification of these units as nursing or medical specialties may be less clear, then, with consequences for relatively high physician allegiance compared with other specialties. Further, physicians in medical, auxiliary, and acute cancer settings may be more dependent on nurses for information and collaboration due to the complex multiple nature of health problems in these patient areas. Interchange between nurses and physicians may be relatively high as a result, with consequences for higher commitment to physicians. Low commitment to long term job continuance among medical nurses may be a consequence of increased job mobility due to greater availability of jobs in the medical area compared with other specialties. In addition, nurses frequently have to work in clinical specialties not of their choice, taking what is available, most often in medical and surgical specialties, until an opening in a preferred specialty arises. Under these circumstances, the finding that medical nurses scored lowest in commitment to long term job continuance was expected.

Psychiatric nurses order lowest in both commitment to advocacy role and physicians. Psychiatry is characterized by uncertainties both

in terms of knowledge application and patient outcome. As such, it is likely that the roles of physicians and nurses overlap considerably. This may foster role ambiguities and tensions if not less nursing dependence on physicians. Low commitment to physicians may be a result. Psychiatric nurses' relatively low commitment to advocacy role may arise from several sources: uncertainty and conflict between physicians and nurses as to information control, doubts concerning emotional and mental capabilities of patients to manipulate and cope with information, and low involvement of families in the care and treatment of patients. These sources of low commitment to advocacy role are plausible explanations yet subject to further research.

Psychiatric and auxiliary nurses, while not ordering highest on any factor, order lowest on several. Psychiatric nurses order lowest on two, the Physician and Advocacy Role factors. Auxiliary nurses order lowest on the Clinical Specialty factor. In contrast, obstetrical, rehabilitative, and surgical nurses order highest on one or more factors but lowest on none. Obstetrical nurses score highest on the Clinical Specialty factor, rehabilitative nurses score highest on the Long Term Job Continuance factor, and surgical nurses score highest on the Profession factor. Pediatric, medical, and acute cancer nurses order highest and lowest on one or more factors: pediatric nurses score highest on the Advocacy Role factor and lowest on the Nursing Unit Peers factor, medical nurses score highest on the Physicians factor and lowest on the Long Term Job Continuance and Patient-Family Involvement factors, and acute cancer nurses score highest on the Nursing Unit Peers and Patient-Family Involvement factors and lowest on the Profession factor.

The purpose of the preceding analysis was to identify the relative positions of nursing specialty groups in terms of the seven uncorrelated commitment factors. A profile of each nursing group can be described in terms of the relative position of the specialty on each factor (see Appendix E). Through identifying and describing these profiles, an understanding and appreciation potentially can be gained of what binds types of nurses to particular organizational roles.

Comparison of Factor Solutions Based on Individual and Mean Group Responses

The empirical description of categories of nurses, to follow, is based on aggregated responses since Q technique applied to the larger data set of individual responses was technically unmanageable. Since interpretation of these categories is desired in terms of the seven factor solution based on individual responses, the assumption was made that factor structures based on individual and mean group responses were highly similar. To provide a basis for this assumption, a series of factor analyses was done on the mean responses of nurses grouped by hospital, specialty, and nursing unit to enable comparisons of factor solutions based on mean and individual responses.

An interpretable solution was sought in terms of the conceptual framework and prior empirical research while still explaining a reasonable proportion of the total variance in mean group responses. An initial orthogonal principle axis solution resulted in eleven factors with eigenvalues greater than one explaining 74.8% of the total variance in mean responses. Orthogonal analysis was repeated reducing the number of

factors to find the most interpretable solution. The best solution was the seven factor orthogonal with varimax rotation explaining 60% of the total variance in mean group responses to 34 items. The orthogonal solution is illustrated in Table 11. Factors I through VII account for 13.5%, 9.9%, 8.3%, 7.4%, 7.2%, 6.9%, and 6.8% of the total variance in responses respectively.

An oblique solution for the seven factors was also examined. However, both primary factor pattern and structure solutions were comparable with the orthogonal solution in Table 11. Correlations among the factors were sufficiently low to allow for acceptance of comparative orthogonality between factors (see Appendix F).

In comparing the seven factor orthogonal solutions based on mean and individual responses, six highly similar factors emerge. In terms of the variables loading at .40 and greater, Factors I through VII based on mean responses compare with those of the original solution based on individual responses as follows: all items loading with the Nursing Unit Peers factor of the original solution load with Factor I together with items 9 and 26 which relate to hospital and peers respectively, all items loading with the Clinical Specialty factor of the original solution load highly with Factor II, all items loading with the Advocacy Role factor of the original solution load highly with Factor V, all items loading with the Physicians factor of the original solution load highly with Factor VII, all items loading with the Patient-Family Involvement factor of the original solution load highly with Factor VI together with item 32 relating to nursing unit, all items loading with the Profession factor of the original solution load highly with Factor IV together

Table 11

Factor Analysis on Mean Responses - Orthogonal Solution Varimax Rotation

Item Number	Item Content	Communalities	Factors[a]						
			I	II	III	IV	V	VI	VII
1	Peer socializing	.540	.461	.113	.131	.051	.439	.049	-.315
2	Peer support	.548	.688	-.202	.103	-.051	.137	.000	.039
3	Peer communication	.594	.729	.218	.036	.030	-.093	.065	.013
4	Peer teamwork	.458	.635	-.119	.121	-.111	.006	.104	.052
9	Physician-nurse teamwork	.677	.582	-.143	.070	-.314	.200	-.050	.415
26	Hospital preference over time	.437	.508	.101	.151	-.051	-.185	-.196	.265
30	Unit preference over time	.644	.748	.211	-.009	-.072	-.070	-.169	-.032
31	Unit support	.685	.791	.040	-.052	-.010	.173	-.047	-.114
34	Unit membership	.683	.746	-.095	-.115	.112	.291	-.054	-.054
27	Specialty versus other specialties	.468	.246	.468	.112	-.415	.046	-.131	-.319
28	Specialty preference over time	.691	.315	.691	.228	-.068	-.250	.094	.051
35	Unit physicians preferred	.404	-.217	.404	-.180	-.182	-.006	.219	.497
36	Patient prognoses preferred	.759	-.041	.759	-.306	.210	-.029	-.069	.001
37	Patient health problems preferred	.832	.046	.832	-.253	.057	-.010	.125	-.038
38	Patient age groups preferred	.820	-.114	.820	.067	-.040	.114	-.090	-.146
17	Patient information	.684	-.025	-.179	.680	-.024	.407	-.033	-.145
18	Family information	.710	-.127	-.113	.681	-.002	.437	.161	-.016
22	Desire for nursing in future	.572	.093	-.179	.677	.096	-.138	-.186	.104
23	Nursing without economic need	.425	.163	-.007	.536	.207	.114	.063	.227
24	Nursing versus other jobs	.474	.117	.105	.588	-.063	-.027	-.295	.108
10	Physician assistance	.640	-.004	-.121	-.147	.484	.331	-.268	.434
25	Hospital versus other hospitals	.324	.168	.029	.133	-.495	.057	-.152	.077
32	Loyalty to nursing unit	.579	.067	.108	-.225	-.555	.055	.422	.152
63	Loyalty to nursing profession	.601	-.058	.184	.090	.660	.334	.089	.023
64	Control by nursing profession	.312	-.045	.012	.054	.501	.210	.084	.074
66	Nursing inservice attendance	.532	.273	-.180	.192	.494	-.246	.284	-.051
67	Plans for formal nursing education	.575	-.062	.074	.326	.478	-.213	.380	.201
15	Patient representative	.669	.286	.006	.033	.189	.728	-.096	.101
16	Family representative	.689	.065	-.074	.235	.034	.743	.187	.191
11	Concern for patients	.643	-.058	-.013	-.113	.205	.060	.724	-.236
12	Concern for patients' families	.715	-.088	.037	-.147	.117	.017	.819	.010
13	Personal patient contact	.483	.102	-.382	.175	.047	.290	.415	-.192
6	Physician liking	.709	.088	-.058	.138	.094	.059	-.068	.814
7	Physician respect	.660	.047	-.156	.340	.023	.010	-.254	.665
		20.40	4.58	3.36	2.84	2.51	2.44	2.34	2.33

Note. Factor analysis was applied to the mean responses of nurses categorized by hospital, specialty, and nursing unit. Items have been reordered from the original questionnaire (see Appendix A) for ease of viewing loadings of .40 and greater on each factor.

[a]Loadings of .40 and greater are underlined.

with items 10 and 27 relating to assisting physicians and specialty preference respectively, and only two items (23 and 24) loading with the Long Term Job Continuance factor of the original solution load highly with Factor III together with items 17, 18, and 27 relating to patient-family information and nursing work.

The greater change observed in the Long Term Job Continuance factor when contrasting factor solutions based on individual nurse and mean group responses points to its relative instability compared with the six other factors. However, the extent of agreement observed between factors in terms of variables loading at .40 and greater is evidence of general factor stability across factor solutions based on individual and aggregated responses. On the whole, then, the assumption of high similarity between factor structures based on individual and mean responses is supported. It is concluded that results from Q technique based on mean responses of nurses categorized by hospital, specialty, and unit can be generally discussed in terms of the factor solution based on individual responses.

Categories of Nurses

In order to identify categories of nurses in relation to commitment as a whole, Q technique was applied to the mean responses of 71 groups of nurses categorized by hospital, specialty, and nursing unit. The application of Q technique allowed the nursing groups to cluster together on the basis of similarities in mean responses to the same 34 Likert items which entered into the final factor solution. Consequently, the clustering of nursing groups into specific categories was based on

their similarities in relation to a composite of all factors thought to exist, the seven commitment factors of Nursing Unit Peers, Clinical Specialty, Advocacy Role, Long Term Job Continuance, Physicians, Profession, and Patient-Family Involvement.

The transposed data matrix was initially analyzed for an orthogonal principle axis solution. Eight factors were found to have eigenvalues greater than one, accounting for 88% of the variance in nursing groups. The transposed data matrix was then analyzed for both orthogonal and oblique solutions. In seeking both solutions, Q technique was repeated reducing the number of factors to find the most interpretable solution. The two factor oblique solution was most acceptable in that there was less tendency for nursing groups to load highly in more than one category as compared with the two factor orthogonal solution. The oblique primary factor pattern solution is illustrated in Table 12. The two categories together with their covariance term account for 72.6% of the total variance in nursing groups. Of this 72.6%, 33.6% of the variance is attributable to the first category, 27.2% to the second category, and 11.8% to the covariance between categories I and II.

In order to reveal the meaning of the two categories each is examined in terms of those nursing groups with loadings of .40 and greater. Nursing groups loading with category I are as follows: all of the 8 pediatric nursing groups, all of the 8 obstetrical nursing groups (of these 1 loads higher on the second factor), 7 of the 9 psychiatric nursing groups (1 loads on neither factor), 9 of the 10 surgical nursing groups, 5 of the 7 intensive care nursing groups, 2 of the 7 rehabilitative nursing groups, and 5 of the 9 medical nursing groups (2 of these

Table 12

Q Technique - Oblique Primary Factor Pattern Solution

Type of Nursing Group	Categories I	Categories II	Type of Nursing Group	Categories I	Categories II
PAEDS	0.682	0.139	ICU	0.502	0.439
PAEDS	0.836	0.020	ICU	0.781	0.160
PAEDS	0.447	0.381	ICU	0.996	-0.180
PAEDS	0.580	0.385	ICU	0.469	0.427
PAEDS	0.484	0.474	ICU	0.170	0.636
PAEDS	0.820	0.113	ICU	0.322	0.603
PAEDS	1.016	-0.154	REHAB	-0.019	0.881
PAEDS	0.624	0.152	REHAB	0.186	0.692
OBS	1.073	-0.197	REHAB	0.171	0.793
OBS	0.606	0.215	REHAB	0.300	0.642
OBS	0.804	0.113	REHAB	0.042	0.872
OBS	0.687	0.302	REHAB	0.463	0.443
OBS	0.854	0.069	REHAB	0.725	0.151
OBS	0.965	-0.122	AUX	0.026	0.870
OBS	1.004	-0.155	AUX	-0.152	0.927
OBS	0.430	0.493	AUX	0.200	0.722
PSYCH	0.883	-0.028	AUX	0.048	0.864
PSYCH	0.608	0.211	AUX	-0.341	1.142
PSYCH	1.046	-0.150	AUX	0.301	0.510
PSYCH	0.584	0.309	AUX	-0.064	0.924
PSYCH	0.836	0.054	AUX	0.373	0.574
PSYCH	0.607	0.207	AUX	0.201	0.655
PSYCH	0.486	0.419	AUX	0.155	0.734
PSYCH	0.359	0.268	AUX	0.464	0.417
PSYCH	0.382	0.422	MED	0.777	0.766
SURG	0.537	0.427	MED	0.375	0.528
SURG	0.821	0.052	MED	0.043	0.740
SURG	0.711	0.218	MED	0.299	0.500
SURG	0.741	-0.177	MED	0.419	0.525
SURG	0.648	0.212	MED	0.287	0.552
SURG	0.678	0.255	MED	-0.565	1.145
SURG	0.780	-0.037	MED	0.656	0.253
SURG	0.854	-0.038	MED	0.514	0.468
SURG	0.470	0.383	CANCER	0.160	0.731
SURG	0.046	0.841	CANCER	0.112	0.833
ICU	0.612	0.228			

Correlations	I	II
I	1.00	
II	0.78	1.00

Note. The analysis was performed on the mean responses of 71 nursing groups categorized by hospital, specialty and unit.

[a]Loadings of .40 and greater are underlined.

load higher on the second factor). No acute cancer nursing groups and only one of 11 auxiliary nursing groups load highly with Category I.

When loadings of .40 and greater are examined, nursing groups included in Category II are identified as follows: 6 of the 7 rehabilitative nursing groups (1 of these loads higher on the first factor), all of the 11 auxiliary nursing groups (1 of these loads higher on the first factor), 8 of the 9 medical nursing groups (2 of these load higher on the first factor), both acute cancer nursing groups, 2 of the 7 intensive care nursing groups (both load higher on the first factor), 2 of the 10 surgical nursing groups (1 loads higher on the first factor), 2 of the 9 psychiatric nursing groups (1 loads higher on the first factor), 1 of the 8 obstetrical nursing groups, and 1 of the 8 pediatric nursing groups (this one loading higher on the first factor).

The 71 nursing groups are found to primarily cluster within one or the other of the two categories (see Figure 5). These categories depend on the degree to which there are underlying similarities among nursing groups in terms of commitment as a whole, rather than one commitment dimension or factor.

CATEGORY I	CATEGORY II
PAEDS OBS PSYCH SURG ICU	MED AUX CANCER REHAB

Figure 5: Categories of nursing groups obtained through the application of Q technique.

The correlation between Categories I and II is .78, indicating the degree to which pediatric, obstetrical, psychiatric, surgical, and intensive care nursing groups are similar to medical, auxiliary, acute cancer, and rehabilitative nursing groups. The high similarity among nursing groups in terms of commitment as a whole was expected as the mix of respondents sampled were relatively homogeneous in their educational and work experience backgrounds. More specifically, several factors may plausibly explain the high similarity in commitment observed among nursing groups. A formalized system of nursing education is thought to be a primary factor in fostering commitment to profession or occupation. Through the process of educational socialization nurses tend to share broadly based patient care goals and values, such as patient-centred nursing care. This process of educational socialization has less opportunity to be established in the case of registered nursing assistants as their tenure in the educational system is far shorter than that of the registered nurse. As well, nurses employed in hospitals generally share similar work experiences and work environments. The extent to which work experience, goals, and values are shared, together with the fact that all other health personnel come and go from the unit in a twenty-four hour period while nursing personnel are assigned to stay, have consequences for nurses' reliances on colleagues and their commitment to them. Through occupational motivations and organizational sanctions related to noncompliance with medical guidelines, practicing nurses are also committed to assisting physicians. Due in part to the twenty-four hour presence of nursing personnel with patients and their role in maintaining continuity in patient care, nursing personnel are those best suited for

fulfilling a much needed patient advocacy role. Patients and their families are frequently intimidated by hospital procedures and rules and, at times, their own doctors. When illness or disability occurs, patients and families often experience increased vulnerability in terms of coping ability. Nursing personnel usually have knowledge of patient and family concerns which possibly would remain unexpressed or relieved if not for nurses' commitment to a patient advocacy role. Nursing personnel also develop commitment to clinical specialty areas. Delora and Moses demonstrated that nursing students exhibit preferences for particular clinical areas (1969). Specialization in terms of a particular knowledge set and skills acquired over time through nursing practice likely acts to strengthen nurses' commitment to particular clinical areas. In summary, given relatively similar educational and experiential backgrounds, homogeneity among nurses in terms of commitment as a whole appears reasonable and is supported by the correlation of .78 between Categories I and II. Nevertheless, the identification of two categories of nursing groups provides evidence that differences in overall commitment do exist among nursing groups.

The categories are notable due to the apparent presence of an underlying dichotomy of "care" and "cure". Nursing has often been described in terms of care and cure practices (Mauksch, 1966, p. 128). Care practices have been associated with independent functioning of the nurse separate and distinct from the physician and focus upon socio-psychological aspects of illness rather than patho-physiological processes. Generally, Category II nurses fit with this description. In direct contrast, cure practices have been associated with dependent functioning of the nurse with the physician in the investigation and treatment of

patho-physiological illness. Category I nurses generally meet with this description. As care and cure practices are less than independent of one another, the .78 correlation between Categories I and II appears logical and meets with a priori expectations. The appearance of two categories of nursing groups may, then, be a consequence of the extent to which care and cure practices are intercorrelated among nursing specialties.

Category I

Category I comprises the nursing groups of pediatrics, obstetrics, psychiatry, surgery, and intensive care. These groups share a stronger orientation toward cure practices as opposed to care practices. It was therefore expected that similarities in orientation would be reflected in their commitment as a whole. However, the clustering of psychiatric nursing groups within this category was surprising in that generally this specialty focuses on socio-psychological functioning or care practices. Two explanations are plausible. First, psychiatric nursing practice is more oriented toward long term behaviour modification, if not "curing" patients of their symptomology, whereas care practices are oriented primarily toward provision of supportive, palliative services. Second, nursing units from which psychiatric nurses were sampled provided acute psychiatric services. Patient stays on these units are short term and are usually characterized by intensive treatment goals through programmed nursing cure tasks. Compared with psychiatric units historically and those currently housing chronic psychiatric cases, a stronger orientation toward cure is present in the acute psychiatric setting.

Category I, then, comprises those nursing groups with stronger orientations toward cure as opposed to nursing care practices. Nursing task goals include complete alleviation of patient disease and dysfunction. Patients serviced by Category I nurses generally are relatively young, have few chronic illnesses, and fairly good prognoses for complete recovery. Hospitalization is usually described in terms of episodic patho-physiological crises and relatively short term stays as a result of patient recovery, transfer, or death. These characteristics of Category I specialties suggest positive work environments as well as positive patient and employee outcomes and may be reflected in the high ordering of all five nursing specialty groups together on the Clinical Specialty factor.

As patient health problems are potentially acute yet often singular and nursing tasks tend to be programmed to meet cure goals, uncertainty as to how to meet illness related nursing goals is decreased together with the need for peer collaboration. The relatively low ordering of all five specialty groups in Category I on the Nursing Unit Peers factor appears consistent with relatively low requirements for peer collaboration, as elements of collaboration (teamwork, information sharing, support) are described by the Nursing Unit Peers factor. Similarly, well defined medical practices and programmed tasks to meet cure goals may result in reduced requirements for nurse-physician interchange in all specialties in Category I, with the probable exception of psychiatry. Dependence on physicians and possibly commitment to them may decrease as a consequence. This may explain the relatively low ordering of all five nursing specialty groups in Category I on the Physicians

factor.

All specialty groups within Category I order relatively high on the Patient-Family Involvement factor with the exception of obstetrical groups. This finding is likely related to the acuity of illness of the patient population. In addition, as both nurses and patients characteristic of Category I generally are relatively young, nurses may identify highly with their patients in terms of either age or role. Due to the fact that pregnancy and its pre- and post-partum stages are perceived as normal conditions with incidence of illness and complications lower than that of other health problems associated with hospitalization, the low ordering of obstetrical nursing groups on the Patient-Family Involvement factor is understandable. Although the importance of fathers in meeting obstetrical task objectives is well recognized today in most hospitals, their involvement may not necessarily require or result in nurses' commitment to personal involvement with patients and their families.

Three of five Category I nursing groups order relatively high in commitment to profession: intensive care, surgical, and obstetrical nursing groups. One possible explanation may be that nursing priorities are clearer when patients are acutely ill or in an acute stage of health, e.g., pregnancy. Ideals can be functional but within clear boundaries of expectations and priorities. Commitment to profession may then remain intact or be further developed. Furthermore, technologies associated with nursing practice in obstetrics, intensive care, and surgery are increasing at a faster pace than in other nursing specialties. A result may be a desire to upgrade nursing knowledge (an inherent aspect of profession) parallel to technological advances. Pediatric and psychiatric

nursing groups may experience conflicts between the socio-psychological and patho-physiological caring processes, potentially resulting in disillusionment and lowering of commitment to profession.

Perceived ease of mobility in the nursing job market may account for the finding that Category I nursing groups order relatively low in commitment to long term job continuance. Further, the relatively low ordering of Category I nurses on the Nursing Unit Peers and Physicians factors appears somewhat consistent with the finding that these nursing specialties order relatively low in terms of the Long Term Job Continuance factor.

Category II

In contrast, Category II comprises those nursing groups having stronger orientations toward nursing care practices as opposed to cure practices: medical, auxiliary, rehabilitative, and acute cancer nursing groups. These nursing groups share common patient care goals of maintenance, rehabilitation to maximum level of functioning, and palliative care.

In general, patients requiring the care of Category II nursing groups are older, have complex multiple health problems, and poorer prognoses for complete recovery. Hospitalization is often characterized by long length of stays. Although some nurses do prefer nursing the chronically ill type of patient, the low ordering of all four Category II specialty groups together on the Clinical Specialty factor suggests otherwise. Aspects of commitment to clinical specialty such as patients' ages, prognoses, and health problems are not preferred by the majority of

Category II nurses as compared with Category I nurses.

Given that Category II nursing groups are distinguished by higher uncertainty surrounding patient outcomes as a result of socio-psychological based interventions, a greater need for collaboration and decision making among nursing peers potentially results. This may explain the relatively high ordering of Category II specialty groups, with the exception of medical groups, on the Nursing Unit Peers factor. Moreover, medical diagnoses and interventions are often less specific yet usually more comprehensive given the tendency of Category II type patients toward complex multiple health problems. Observations required of nurses are of necessity wide ranging. As a result, physicians depend on collaboration with nurses for patient information. The relatively high ordering of Category II nursing groups on the Physicians factor appears consistent with relatively high nurse-physician interchange.

Category II nursing groups generally order lower on the Profession factor compared with groups in Category I. Auxiliary nursing groups are the exception, however, ordering relatively high. All groups in Category II, with the exception of auxiliary groups, have a parallel if not equal interest in the patho-physiological aspects of illness and disability. Auxiliary nurses' perceptions of nursing care priorities may be clearer as a result and disillusionment with professional goals and values less. The advancement of knowledge and technologies associated with care practices is occurring at a slower pace than that of nursing specialties oriented more toward cure practices. Nurses in Category II may, then, be less inclined to upgrade their knowledge and skills through educational programs. These explanations appear credible in light of the

low ordering of most Category II nursing groups on the Profession factor.

Given that patients requiring the service of Category II nurses generally have more stable health conditions with relatively few patho-physiological or emotional crises, the low ordering of Category II nursing specialties on the Patient-Family Involvement factor was expected. Acute cancer nursing groups are the exception, ordering highest on the Patient-Family Involvement factor. Their high commitment to patient-family involvement is understandable in light of the catastrophic impact of diagnosis, pain, physical destruction, and socio-psychological trauma on patients with cancer.

With the exception of medical nurses, Category II nursing groups order relatively high in commitment to long term job continuance. Auxiliary, rehabilitative, and acute cancer nurses may perceive themselves as comparatively nonmobile since their nursing specialties tend to be physically contained within hospitals specializing in meeting the needs of homogeneous patient groups. Furthermore, the relatively high ordering of Category II nursing groups on the Nursing Unit Peers and Physician factors appears congruent with commitment to continue long term in a particular job.

No clear characterization of relatively low or high commitment to advocacy role is apparent for either Category I or II although three of four nursing groups in Category II order together on this factor.

It is interesting to note that the 71 nursing groups do not cluster within categories according to hospital origin. It was concluded that the employing agency has little or no effect on variations in commitment as a whole for the sample of nurse respondents studied.

Relative Commitment to Various Aspects of the Nursing Job

Scales were developed to represent the measurement of a series of stimuli along the following psychological continua of commitment: degree of commitment to employment areas, persons in the work place, nursing tasks, and co-ordinative mechanisms. Scale values for each set of stimuli were calculated on the basis of both the total nurse population and the nurse population in each specialty area responding. Estimates of the differences between scale values for each pair of stimuli on a continuum are measured in standard deviation units. Scale values reflect relative differences in the ranking of stimuli as well as the intensity of difference between pairs of stimuli for the same continuum and nurse population. Comparisons can be made across specialty groups based on differences in distance between pairs of stimuli on a psychological continuum. Actual scale values of stimuli, however, can not be compared among specialties as scales are nonstandardized across groups.

Scale Values for All Nurse Respondents

The scale values for each stimulus on each respective commitment continuum are shown in Table 13. These scale values are based on the responses of all nurses.

The higher scale value for peers when compared with physicians and patients' families was anticipated as an outcome of professional socialization and from the twenty-four hour presence of nursing personnel on nursing units. Although patients' families are important in the planning and delivery of patient care, physicians are perceived more

Table 13

Scale Values of Stimuli Associated With Each Dimension of Relative Commitment

Degree of Relative Commitment to Persons in the Work Place[a]		
Patients' Families	Physicians	Nursing Peers
-.400	-.174	.574

Degree of Relative Commitment to Employment Areas[b]		
Hospital	Nursing Unit	Nursing Specialty
-.486	.154	.332

Degree of Relative Commitment to Nursing Tasks[c]				
Patient-Family Teaching	Physical Comforting	Observation and Monitoring	Carrying Out Medical Orders	Emotional Comforting
-.315	-.178	.058	.108	.327

Degree of Relative Commitment to Co-ordinative Mechanisms[d]			
Patient Conferences	Nursing Care Plans	Written Feedback	Verbal Feedback
-.381	-.313	-.013	.707

Note. Each scale is based on the responses of all nurses completing relevant item sets (items 19-21, 39-41, 42-51, 52-57).

[a] $N = 414$
[b] $N = 465$
[c] $N = 460$
[d] $N = 438$

important in this regard, a function in part of their prescriptive powers in hospitals and nursing motivations.

The specialty, nursing unit, and hospital order highest to lowest in importance to the practice of nursing for all nurses. The higher scale values for specialty and nursing unit seem consistent with the extent to which each directly influences nursing practice compared with the hospital. The hospital, and to a far lesser extent the nursing unit, represent bureaucratic influences not always complementary to achievement of patient care objectives. The distance in standard deviation units between specialty and nursing unit is .178, representing 22% of the continuum compared with the distance of .640 between nursing unit and hospital, representing 78% of the continuum. Since specialties are organizationally set up within nursing units, the closeness in scale values of specialty and nursing unit relative to hospital was expected.

Nursing tasks in order of importance to patient care from highest to lowest are emotional caring, carrying out medical orders, observation and monitoring, physical comforting, and patient-family teaching. The percentages of total distance on the degree of commitment to nursing tasks continuum between each of the above task stimuli are respectively 28.9%, 21.9%, 31.1%, and 18.1%. Given the greater emphasis on socio-psychological aspects of nursing care in recent years it was expected that emotional comforting would rank relatively high. Nevertheless, the relatively low ordering of physical comforting compared with emotional comforting was not anticipated as physical comfort is usually thought a prerequisite to emotional comfort, although both can be

regarded as considerably interdependent. The relatively high ordering of both the carrying out of medical orders and observation and monitoring was understandable in light of the general acuity of illness in hospitalized patients and the powerful influence of physicians in medical diagnosis and treatment. The ordering of patient-family teaching lowest of the five nursing tasks may be evidence of nurses' recognition of not giving adequate attention to the importance of teaching.

Differences are also observed in the degree of commitment to co-ordinative mechanisms. Co-ordinative mechanisms in terms of importance to patient care order highest to lowest as follows: verbal feedback, written feedback, nursing care plans, and patient care conferences. The percentages of total distance between each of the above mechanisms on the degree of commitment to co-ordinative mechanisms continuum are respectively 66.2%, 27.6%, and 6.2%. The extent to which verbal reporting is perceived as highly important to the achievement to patient care over other co-ordinative mechanisms may well mirror the uncertainty and instability of patient conditions and the possible inadequacies of written records, care plans, and conferences in providing relevant information in the day to day achievement of work goals. Moreover, it is commonly recognized that the greatest amount of communication in all spheres of life is verbal.

The range of scale values for each dimension of relative commitment is different. With respect to the degree of commitment to persons in the work place the range of scale values is .974. In terms of the degree of commitment to employment areas the range of scale values is

.818. Similarly, the range of scale values for the degree of commitment to nursing tasks is .624 and for the degree of commitment to co-ordinative mechanisms, 1.088. This suggests that nurses found it most difficult to discriminate nursing task stimuli in relation to the degree of commitment to nursing task continuum than stimuli associated with the other three dimensions of relative commitment. This finding possibly indicates the relative interdependence of care-cure nursing tasks for all nurse respondents.

Scale Values as a Function of Nursing Specialty

Degree of commitment to persons in the work place. In terms of degree of commitment to persons in the work place, two major orderings of people stimuli (nurses, physicians, patients' families) are evident (see Table 14). Nurses order highest, followed by physicians and patients' families for obstetrical, rehabilitative, intensive care, psychiatric, surgical, medical, and acute cancer nurses. Nurses order highest, but are followed by physicians and patients' families for pediatric and auxiliary nurses. The two orderings of people stimuli across the nursing specialty groups are due then to difference in the ordering of patients' families and physicians. The intensity of difference between pairs of ranked people stimuli across nursing specialties is illustrated in Table 15. Across all specialties, scale values for physicians and nurses are farther apart in terms of importance to the nursing unit compared with scale values for physicians and patients' families. Rehabilitative, acute cancer, auxiliary, and pediatric nurses' scale values for physicians and nurses are farthest apart, accounting for 89.9% to 100% of the

Table 14

Scale Values of Persons in the Work Place

Specialty[a]	Degree of Relative Commitment to Persons in the Work Place		
	Patients' Families	Physicians	Nursing Peers
OBS (41)	-.603	-.0	.603
REHAB (47)	-.300	-.266	.566
ICU (54)	-.755	.0	.755
PSYCH (50)	-.455	-.111	.566
SURG (52)	-.593	-.115	.708
MED (48)	-.472	-.023	.495
CANCER (30)	-.356	-.258	.614
Specialty	Physicians	Patients' Families	Nursing Peers
PAEDS (48)	-.270	.0	.270
AUX (44)	-.667	-.225	.892

Note. Nursing specialties are categorized when the ordering of people stimuli is identical.

[a]Within brackets are the number of questionnaires from each specialty suitable for analysis (items 19-21 were complete).

Table 15

Distance Between Scale Values of Pairs of Ordered Stimuli on the Degree of Relative Commitment to Persons in the Work Place Continuum

Nursing Specialty	Distance Between Scale Values (% of Continuum)	
	Patients' Families and Physicians (%)	Physicians and Nurses (%)
OBS	50	50
REHAB	4	96
ICU	50	50
PSYCH	33.7	66.3
SURG	36.8	63.2
MED	46.4	53.6
CANCER	10.1	89.9
Nursing Specialty	Physicians and Patients' Families (%)	Patients' Families and Nurses (%)
PAEDS	50	50
AUX	28.4	71.6

continuum distance compared with 50% to 71.6% for the five other specialties.

The similar ordering of people stimuli for pediatric and auxiliary nurses was understandable from a nursing viewpoint. For different reasons, these two specialties may tend to utilize the family as a resource in patient care more than other specialties. Pediatric nurses rely heavily upon input and feedback from parents due to the varying ability of children to express their needs adequately. Auxiliary nurses tend to have patient goals emphasizing the maintenance of independent patient functioning. These goals, the long length of patient stays, and the relative absence of patho-physiological crises could contribute to the higher importance of the family over the physician in the auxiliary area.

The greater distance between the scale values of nurses and physicians for auxiliary, acute cancer, pediatric, and rehabilitative nurses may result from clearer differentiation of roles of nurses and physicians in these care settings. Role clarity may be fostered by an equal if not greater emphasis upon caring as opposed to curing functions in these clinical areas which allows for greater freedom of nursing prescriptive powers. Furthermore, physicians in acute cancer and rehabilitative settings may, and definitely do in auxiliary settings, play a lesser role in the direction and supervision of patient care in contrast to their medical counterparts in acute general hospitals. Therefore the relative importance of nurses and physicians for these nurses may be more easily discernible. The finding that physicians and patients' families are closer in importance to patient care for auxiliary, rehabilitative, and acute cancer nurses than for other nursing specialties seems sensible

given the tendency for families to play a greater role in the planning and care of patients characteristic of these areas, in part, a function of the longer term nature of their health conditions and their long length of patient stay.

Degree of commitment to employment areas. In relation to the degree of commitment to employment areas two major orderings of employment stimuli (hospital, specialty, and nursing unit) are evident across the nursing specialty groups. The ordering is identical across all groups with the exception of acute cancer nurses (see Table 16). In terms of importance to nursing practice, the nursing unit orders highest followed by the hospital and specialty for acute cancer nurses, whereas the nursing specialty orders highest followed by the nursing unit and hospital for the other eight nursing groups. The two orderings of employment area stimuli are due, then, to differences in the ordering of all three employment area stimuli for acute cancer nurses. As the nursing unit and hospital are essential requisites to acute cancer nurses' practice of the specialty, in that the specialty is only contained within the hospital and nursing unit, the ordering of nursing unit highest followed by hospital was expected. The relative closeness of scale values for specialty and hospital (see Table 17) for acute cancer nurses underlines the fact that the specialty *is* the hospital for these nurses.

Degree of commitment to nursing tasks. Six different orderings of nursing task stimuli (emotional and physical comforting, observation and monitoring, carrying out medical orders, and patient-family teaching)

Table 16

Scale Values of Employment Area Stimuli

Specialty[a]	Degree of Relative Commitment to Employment Areas		
	Hospital	Nursing Unit	Specialty
PAEDS (55)	- .760	.160	.600
OBS (49)	- .357	.094	.264
REHAB (53)	- .346	.133	.212
ICU (59)	-1.043	.364	.679
AUX (55)	- .217	.061	.155
PSYCH (54)	- .849	.315	.533
SURG (57)	- .404	.112	.292
MED (53)	- .500	.195	.305
Specialty	Specialty	Hospital	Nursing Unit
CANCER (30)	- .084	-.057	.141

Note. Nursing specialties are categorized when the ordering of employment areas is identical.

[a]Within brackets are the number of questionnaires from each specialty suitable for analysis (items 39-41 were complete).

Table 17

Distance Between Scale Values of

Pairs of Ordered Stimuli on the Degree of

Relative Commitment to Employment Area Continuum

Nursing Specialty	Distance Between Scale Values (% of Continuum)	
	Hospital and Nursing Unit (%)	Nursing Unit and Specialty (%)
PAEDS	67.6	32.4
OBS	72.6	27.4
REHAB	85.9	14.1
ICU	81.7	18.3
AUX	90.7	9.3
PSYCH	84.2	15.8
SURG	74.2	25.8
MED	86.3	13.7
Nursing Specialty	Specialty and Hospital (%)	Hospital and Nursing Unit (%)
CANCER	11.5	88.5

are identified across the nine specialty groups (see Table 18). The six orderings of nursing tasks across the nine nursing groups appear primarily due to variations in the ordering of the following task stimuli: observation and monitoring, carrying out medical orders, and physical comforting. Variation in the intensity of difference between pairs of ranked nursing task stimuli across specialty groups is illustrated in Table 19.

The six different orderings of nursing task stimuli across the specialties deserve further attention. In relation to acute cancer, pediatric, and medical nurses, nursing tasks are ordered from highest to lowest as follows: emotional comforting, carrying out medical orders, observation and monitoring, physical comforting, and patient-family teaching. The ordering of nursing tasks is identical for intensive care and surgical nurses: observation and monitoring orders highest followed by carrying out medical orders, emotional comforting, physical comforting, and patient-family teaching. Each of the remaining four specialties orders nursing tasks differently both from each other and the preceding five specialty groups.

Observation and monitoring ranks highest followed by the carrying out of medical orders for both surgical and intensive care nurses. Given the greater instability of patients and higher probability of patho-physiological crises in these two specialties this finding was reasonable. In relation to all nursing groups, with the exception of auxiliary nurses, emotional comforting orders highest followed by the carrying out of medical orders or observation and monitoring. The relatively low ranking of both observation and monitoring and the

Table 18

Scale Values of Nursing Task Stimuli

Specialty[a]	Degree of Relative Commitment to Nursing Tasks				
	Patient-Family Teaching	Physical Comforting	Observation and Monitoring	Carrying Out Medical Orders	Emotional Comforting
CANCER (28)	-.501	-.204	-.131	.076	.760
PAEDS (53)	-.312	-.195	.081	.146	.279
MED (53)	-.526	.094	.110	.125	.196
Specialty	Patient-Family Teaching	Physical Comforting	Emotional Comforting	Carrying Out Medical Orders	Observation and Monitoring
ICU (53)	-.651	-.506	-.032	.381	.808
SURG (51)	-.644	-.041	.108	.110	.468
Specialty	Physical Comforting	Observation and Monitoring	Patient-Family Teaching	Carrying Out Medical Orders	Emotional Comforting
PSYCH (53)	-1.296	-.570	-.003	.098	1.771
Specialty	Observation and Monitoring	Physical Comforting	Patient-Family Teaching	Carrying Out Medical Orders	Emotional Comforting
REHAB (51)	-.197	-.192	-.027	.096	.320
Specialty	Patient-Family Teaching	Observation and Monitoring	Carrying Out Medical Orders	Physical Comforting	Emotional Comforting
AUX (51)	-.464	-.163	-.155	.311	.472
Specialty	Physical Comforting	Patient-Family Teaching	Carrying Out Medical Orders	Observation and Monitoring	Emotional Comforting
OBS (45)	-.547	.013	.134	.160	.240

Note. Nursing specialties are categorized when the ordering of nursing tasks is identical.

[a]Within brackets are the number of questionnaires from each specialty suitable for analysis (items 42-51 were complete).

Table 19

Distance Between Scale Values of Pairs of Ordered Stimuli on the Degree of Relative Commitment to Nursing Tasks Continuum

Nursing Specialty	Distance Between Scale Values (% of Continuum)			
	Teaching and Physical Comforting (%)	Physical Comforting and Observation/Monitoring (%)	Observation/Monitoring and Medical Orders (%)	Medical Orders and Emotional Comforting (%)
CANCER	23.6	5.8	16.4	54.2
PAEDS	19.8	46.7	11.0	22.5
MED	85.9	1.6	2.1	18.4
Nursing Specialty	Teaching and Physical Comforting (%)	Physical Comforting and Emotional Comforting (%)	Emotional Comforting and Medical Orders (%)	Medical Orders and Observation/Monitoring (%)
ICU	9.9	32.5	28.3	29.3
SURG	54.2	13.4	0.2	32.2
Nursing Specialty	Physical Comforting and Observation/Monitoring (%)	Observation/Monitoring and Teaching (%)	Teaching and Medical Orders (%)	Medical Orders and Emotional Comforting (%)
PSYCH	23.7	18.5	3.3	54.5
Nursing Specialty	Observation/Monitoring and Physical Comforting (%)	Physical Comforting and Teaching (%)	Teaching and Medical Orders (%)	Medical Orders and Emotional Comforting (%)
REHAB	1.0	31.9	23.8	43.3
Nursing Specialty	Teaching and Observation/Monitoring (%)	Observation/Monitoring and Medical Orders (%)	Medical Orders and Physical Comforting (%)	Physical Comforting and Emotional Comforting (%)
AUX	32.2	0.8	49.8	17.2
Nursing Specialty	Physical Comforting and Teaching (%)	Teaching and Medical Orders (%)	Medical Orders and Observation/Monitoring (%)	Observation/Monitoring and Emotional Comforting (%)
OBS	71.1	15.4	3.3	10.2

carrying out of medical orders for auxiliary nurses marks the relative absence of patho-physiological crises and medical orders in this patient setting. Physical comforting is ordered relatively high for auxiliary nurses, ranking second after emotional comforting in importance to patient care on the unit. This finding is congruent with the high emphasis on supportive care functions in auxiliary areas and the comparatively long term noncritical nature of the patient population.

In terms of psychiatric and rehabilitative nurses, three nursing tasks order identically: emotional comforting orders highest, followed by carrying out medical orders, and patient-family teaching. The difference in overall ordering of nursing tasks for these two nursing specialties is due to a reversal in the rank of observation and monitoring and physical comforting. While all nursing specialty groups, with the exception of rehabilitative and psychiatric nurses, order observation and monitoring and the carrying out of medical orders next to one another, psychiatric and rehabilitative nurses order observation and monitoring low or lowest yet the carrying out of medical orders relatively high in importance to patient care. These findings underline the influence of medical orders in psychiatric and rehabilitative settings yet point to the relative patho-physiological stability of the patient populations. The relatively low ordering of observation and monitoring for psychiatric nurses, however, appears inconsistent with the fundamental requirement for patient observation in clinical diagnosis and treatment of mental illness. A possible reason for this inconsistency may be that psychiatric nurses interpreted observation and monitoring in terms of patho-physiological status only.

Patient-family teaching is ordered lowest for all nursing specialty groups with the exception of psychiatric, rehabilitative, and obstetrical nurses. Patient teaching may indeed be a low priority relative to the other four types of nursing tasks. The low priority of physical comforting relative to patient-family teaching for psychiatric and obstetrical nurses could reflect a greater valuation of teaching for these nurses. Specifically, acute psychiatric and obstetrical patients are usually capable of meeting their physical care needs. In the case of the latter, some fathers have taken on part of the responsibility for provision of physical comfort measures during labor and delivery. With regard to rehabilitative and obstetrical patients, teaching is logically an important aspect of cure. For rehabilitative patients teaching is necessary in aiding patients' adjustment to disability and optimization of independence in the home and job. Teaching in obstetrics is often an adjunct to prenatal teaching and aids in maintaining the co-operation and interest of the mother in the birth process and in her skills in infant care.

Although nursing task stimuli are ordered identically for acute cancer, pediatric, and medical nurses, the intensity of difference between pairs of ordered task stimuli varies considerably (see Table 19). For example, the percentage difference in scale values between emotional comforting and the carrying out of medical orders for acute cancer nurses is far greater than that of any other ordered pair of nursing task stimuli and also is far greater than the percentage difference in scale values between these tasks for pediatric and medical nurses. The

relatively high incidence of patient disease characterized by catastrophic pain and physical destruction may account for the differences in distance between scale values observed.

Both the variety of orderings of nursing task stimuli and the extent to which nursing tasks are perceived as more or less important across the nursing specialties mirror judgements nurses must make as to patient care priorities based upon their perceptions of the needs of patients and their requirements for service. It is important to recognize, however, that for each specialty differences in scale values reflect the relative importance of these tasks to nursing care on the unit, although all may be crucially important to patient care for any one or for all nursing specialties.

Degree of commitment to co-ordinative mechanisms. In relation to the degree of commitment to co-ordinative mechanisms, three orderings of stimuli (verbal feedback, written records, nursing care plans, and patient conferences) are identified among the nine nursing groups (see Table 20). Differences among nursing specialties in terms of their ordering of co-ordinative mechanisms appear primarily due to variations in the ranking of the following co-ordinative mechanisms: written records, nursing care plans, and patient care conferences.

Obstetrical, intensive care, auxiliary, surgical, and medical nurses order co-ordinative mechanisms highest to lowest in importance to patient care as follows: verbal feedback, written records, nursing care plans, and patient care conferences. Pediatric, rehabilitative, and acute cancer nurses differ from the preceding ordering in the ranking of

Table 20

Scale Values of Co-ordinative Mechanism Stimuli

Nursing Specialty[a]	Degree of Relative Commitment to Co-ordinative Mechanisms			
	Patient Care Conferences	Nursing Care Plans	Written Records	Verbal Feedback
OBS (46)	-.662	-.629	.198	1.093
ICU (58)	-.514	-.401	.104	.810
AUX (55)	-.334	-.183	-.136	.653
SURG (55)	-.426	-.264	.047	.644
MED (53)	-.362	-.188	-.020	.570
Nursing Specialty	Nursing Care Plans	Patient Care Conferences	Written Records	Verbal Feedback
PAEDS (52)	-.447	-.430	-.082	.959
REHAB (55)	-.311	-.233	-.026	.570
CANCER (33)	-.489	-.451	.151	.789
Nursing Specialty	Patient Care Conferences	Written Records	Nursing Care Plans	Verbal Feedback
PSYCH (53)	-.258	-.231	-.128	-.618

Note. Nursing specialties are categorized when the ordering of co-ordinative mechanisms is identical.

[a]Within brackets are the number of questionnaires from each specialty suitable for analysis (items 52-57 were complete).

the latter two co-ordinative stimuli, patient care conferences order higher than nursing care plans. Co-ordinative mechanisms order highest to lowest for psychiatric nurses as follows: verbal feedback, nursing care plans, written records, and patient care conferences.

Across all specialities, with the exception of psychiatric nurses, the distance between scale values for verbal feedback and written records is greater than the distance between scale values for care plans and written records, and patient care conferences and care plans. In contrast, patient care conferences and nursing care plans are closest in terms of perceived importance to patient care (see Table 21).

The high importance of verbal feedback across all nursing groups was expected. Information transmitted this way is up to date, is quick, allows for qualifications and clarifications, and provides a vehicle for spontaneous involvement of family members, friends, and health personnel in the care of patients. The written record orders second in importance for all nursing groups with the exception of psychiatric nurses. Written records are enforced through legislation requiring documentation of nursing care for the legal practice of nursing. As proper recording of physical and socio-psychological behaviour as an information base for psychiatric treatment and evaluation can require much time and result in voluminous documentations, psychiatric nurses may use nursing care plans to effectively and efficiently outline planned and current progress. This would account for the ordering of nursing care plans second in importance for psychiatric nurses. However, the finding that the patient care conference orders lowest for psychiatric nurses was unexpected because, logically, with greater uncertainty surrounding

Table 21

Distance Between Scale Values of Pairs of Ordered Stimuli on the Degree of Relative Commitment to Co-ordinative Mechanisms Continuum

Nursing Specialty	Distance Between Scale Values (% of Continuum)		
	Patient Conferences and Care Plans (%)	Care Plans and Written Records (%)	Written Records and Verbal Feedback (%)
OBS	1.9	47.1	51.0
ICU	8.5	38.1	53.4
AUX	15.3	4.8	79.9
SURG	15.1	29.1	55.8
MED	18.7	18.0	63.3
Nursing Specialty	Care Plans and Patient Conferences (%)	Patient Conferences and Written Records (%)	Written Records and Verbal Feedback (%)
PAEDS	1.2	24.8	74.0
REHAB	8.8	23.5	67.7
CANCER	3.0	47.1	49.9
Nursing Specialty	Patient Conferences and Written Records (%)	Written Records and Care Plans (%)	Care Plans and Verbal Feedback (%)
PSYCH	3.1	11.7	85.2

treatment interventions and patient outcome in psychiatry when compared with other specialties, the systematic discussion of patient therapies and responses to therapy should comprise a vital dimension of nursing intervention in mental illness. The patient care conference is ordered higher than nursing care plans for pediatric, rehabilitative, and acute cancer nursing groups whereas for all other specialties the reverse is found. Each of these nursing areas tends to be characterized by more diversity in health professionals as compared with other nursing areas. The higher ranking of patient care conferences by pediatric, rehabilitative, and acute cancer nurses may reflect the greater interdependency these nursing groups have with other health care workers.

Summary and Conclusions Related to Paired Comparisons Scaling

As the majority of nursing personnel successfully completed the paired comparison items it was concluded that nurses were able to discriminate between a variety of stimuli comprising the four relative commitment dimensions. However, 81-90% of the returned questionnaires were suitable for paired comparisons scaling whereas 95.5% were suitable for factor analytic procedures. While these findings together with an overall questionnaire return rate of 93.1% suggest a reasonable degree of face validity in the eyes of nurse respondents, these nurses may have found it more difficult to respond to paired comparison items compared with Likert scale items.

In general the scales appeared congruent with a priori expectations and to this extent suggest some degree of construct validity. In

terms of relative commitment to nursing tasks, subsequent research should incorporate changes necessary to ensure broader interpretation of the task stimulus observation and monitoring.

Only two specialty groups, intensive care and surgical nurses, order stimuli associated with all four relative commitment dimensions identically. Four specialty groups order stimuli associated with three relative commitment dimensions identically (excluding relative commitment to nursing tasks): intensive care, surgical, obstetrical, and medical nurses. Of these, all but medical nurses group together in Category I of the Q technique. Six specialty groups identically order stimuli associated with two relative commitment dimensions, persons in the work place and employment areas: obstetrical, intensive care, surgical, psychiatric, medical, and rehabilitative nurses. The first four of these group together in Category I of the Q technique.

Little variance is observed in the ordering of persons in the work place and employment areas among the nine specialty groups: two orderings for each are identified. Systematic differences across specialty groups increase in terms of the number of orderings of co-ordinative mechanisms and nursing tasks: three orderings of co-ordinative mechanisms and six of nursing tasks are identified. Generally, systematic differences in the ordering of stimuli across all four relative commitment dimensions are due to differences in ordering by acute cancer, rehabilitative, auxiliary, and psychiatric nursing groups. As nursing specialties can be distinguished in terms of patient population, degree and type of task specialization, and predominant care-cure orientations, the relatively high number of orderings of nursing task

stimuli across specialty groups met with expectations.

Three stimuli associated with two dimensions of relative commitment, persons in the work place and employment areas, emerge as factors in the orthogonal solution. These factors (stimuli) are nursing unit peers, physicians, and clinical specialty. The hypothetical commitment dimensions of patients' families, hospital, and nursing unit do not appear as factors in the factor solution but are measured in terms of the dimensions of relative commitment to persons and employment areas respectively. Improved measurement of the commitment dimensions of patients' families, hospital, and nursing unit in future research may result in empirical factors corresponding to these hypothetical commitment dimensions.

Paired comparisons scaling was utilized to examine the ordering of various facets of the nursing job for each specialty, in contrast, mean factor scores were utilized to explore the ordering of nursing specialty groups on a commitment factor. While mutually complementary, the two analyses are different from one another. A comparative analysis of mean factor scores and paired comparisons scaling is not necessarily valid as factor scores admit the ranking of specialties on a factor whereas scale values admit the ranking of stimuli, not specialties, on a psychological continuum. Although factor scores for each specialty on a factor and scale values for stimuli on a relative commitment dimension are standard normal variates, the arbitrariness of the zero point does not permit comparisons of specialty scores across factors or scale values across specialty groups.

CHAPTER V

DISCUSSION OF MAJOR FINDINGS, CONCLUSIONS AND IMPLICATIONS FOR FUTURE RESEARCH

In this chapter the major findings of the study are discussed in terms of the commitment literature and construct validity of the measures. Major conclusions are then outlined and implications for future research explored.

Discussion of Major Findings

Major Results in Terms of the Commitment Literature

The results of the factor analytic procedures indicated seven orthogonal commitment factors for the nurses participating in this study. These seven factors explained 49.8% of the total variance in responses to 34 items. The first factor, Nursing Unit Peers, accounted for 9.5% of the total variance. The second and third factors, Clinical Specialty and Advocacy Role, explained 8.18% and 6.91% of the variance in responses respectively. The fourth and fifth factors, labelled Long Term Job Continuance and Physicians respectively, explained 6.7% and 6.41% of the total variance. Factors six and seven, Profession and Patient-Family Involvement, accounted for 6.06% and 6.0% of the total variance in nurse responses respectively.

Ten hypothetical commitment dimensions were represented in the original 45 Likert-scale items: peers, physicians, patients, families,

hospital, clinical specialty, nursing unit, nursing occupation, nursing work and technology. As all items pertaining to technology were excluded from the final factor analyses due to their near-zero loadings with all factors, this dimension did not appear in the final solution. Four of nine hypothetical commitment dimensions did appear as separate factors in the factor solution. These were physicians, peers, clinical specialty, and nursing occupation--renamed profession. The factor Peers, however, was inclusive of the hypothetical dimension of nursing unit. Item factor loadings indicated that distinct elements of the hypothesized dimensions of patients and families were located within each of the uncorrelated Advocacy Role and Patient-Family Involvement factors. Furthermore, distinct elements of the hypothesized dimensions of hospital, specialty, nursing work, and nursing unit were located within the factor labelled Long Term Job Continuance.

The factor structure provides some degree of empirical evidence for the theoretical underpinnings of commitment discussed by Becker (1960), Etzioni (1961), and Kanter (1968). These three authors conceptualized a type of commitment characterized by continuing in a role position. Etzioni labelled this "calculative commitment" (1961, p. 10), Becker "consistent behaviour" (1960, p. 33), and Kanter "continuance commitment" (1968, p. 500). The finding of distinct elements of the hypothesized dimensions of hospital, specialty, nursing work, and nursing unit in the orthogonal Long Term Job Continuance factor points to the underlying process which caused these items to load highly on this factor. This underlying process appears to be continuance commitment, that is, commitment to continue in a particular job set.

Similarly, distinct elements of the hypothesized dimensions of

patients and families located within each of the uncorrelated Advocacy Role and Patient-Family Involvement factors offer a measure of empirical support for Kanter's and Etzioni's typologies of commitment. Both Kanter and Etzioni describe a type of commitment characterized by social cohesion involving the formation of emotional ties between individuals and members of a social system. This bonding of individuals to members of the social system appears to be the fundamental underlying process which caused items to load together on the Patient-Family Involvement factor as well as the Nursing Unit Peers and Physicians factors. A third type of commitment described by Kanter and Etzioni is based on the internalization of norms which serve to morally obligate the individual. Evaluative judgements characterize this commitment type. Internalization of norms appears to be the underlying thread causing items to load together on the Advocacy Role and Profession factors and, to a lesser extent, the Clinical Specialty factor.

The current research represents an initial attempt to comprehensively unfold the dimensionality of commitment within a particular work setting. While the seven factor orthogonal solution suggests the multidimensional nature of commitment for these nurse respondents, provision of conclusive evidence of its uni- or multi-dimensionality in terms of a stronger solution accounting for more total variance with fewer factors was not forthcoming. Other researchers, while explicitly or implicitly recognizing the multidimensionality of commitment, have nevertheless defined commitment in unidimensional terms and have concentrated their research efforts on the identification of determinants and consequences of commitment.

The empirical research of Alonso (1970) and Alutto et al. (1973) constitutes the only investigations reviewed to date utilizing a multidimensional measure of commitment in nurses. Both studies operationalized commitment to the hospital and the profession. Alonso, however, also included the clinical specialty as a commitment dimension. Yet the focus of these researchers was not on the investigation of commitment per se but on the variables associated with it. The finding of the uncorrelated Profession and Clinical Specialty factors lends some empirical support for the choice of these commitment dimensions by Alonso and Alutto et al.

Of some interest was the absence of a hospital commitment factor in the factor solution. In terms of the commitment measure used in this investigation, the absence of this factor indicated that hospital commitment is not a dimension of commitment for these nurse respondents. Empirical support was not provided, then, for the choice of this dimension by Alonso and Alutto et al. in their investigation of commitment in nurses. The inconsistencies between the findings of the preceding researchers and those presented here must be interpreted with caution due to the different conceptualizations and measurement of commitment utilized in each study and the inadequate number of items developed to measure commitment to hospital in the present study. Nevertheless, the credibility of what seems to be over use of the global concept of organizational commitment can at least be questioned, particularly when this concept is so prevalent in the commitment literature.

Marks recognized the multiple and often conflicting nature of commitments and claimed that commitment systems may be culturally patterned for specific subgroups within society (1977, p. 930) such as

professional nursing personnel. Inherent in his concept of commitment systems is the multidimensionality of commitment and the potential for varying strength of commitment across commitment dimensions. The seven factor solution of this investigation appears to support Marks' notion of multidimensional commitment systems. In relation to the measures used, the seven factor orthogonal solution described a commitment system for nursing personnel employed in hospitals which hypothetically and logically may have varying degrees of overlap with commitment systems of other occupational groups. For a large relatively homogeneous group sharing a common commitment system, subgroups can be distinguished from one another in terms of level of commitment on each dimension of the common commitment system. Support for the above is provided in the finding of systematic differences in commitment level across specialty groups on each factor.

The finding that commitment level varies with area of clinical specialization suggests that aspects of a nursing specialty, for instance, environment, technology, structure, and goals have some degree of influence on nurses' commitment levels. Alonso found significant differences in the level of commitment to nursing specialty and hospital according to current employment area mediated by age group (1970, p. 312). Other researchers have suggested the influence of organizational variables on organizational commitment. For instance, Hall et al. proposed that organizational conditions such as reward structures and job design were associated with organizational commitment (1970, p. 176). Steers found that job characteristics and work experience were major antecedents of organizational commitment (1977, p. 53). Further,

organizational commitment may be influenced by job challenge (Buchanan, 1974; Hall & Schneider, 1972), the amount of feedback provided on the job (Porter & Steers, 1973), and opportunities for social interaction (Sheldon, 1971). In relation to the current research, observed differences in levels of commitment among nursing specialty groups may reasonably be interpreted in terms of organizational antecedents.

With reference to mean factor scores, nurses grouped by area of current specialization may have scored high relative to other specialty groups on one factor, yet relatively low on another. A profile of each specialty can be described in terms of its relative position on each commitment factor. As a consequence of identifying the commitment profile for each specialty group, an understanding and appreciation potentialty can be gained of what binds nurses to particular organizational roles. Caution must be taken in interpreting commitment profiles based on mean factor scores in other than terms of relative ordering on each factor as the arbitrariness of the zero point does not permit comparisons across factors.

The application of Q technique to the mean responses of nurses categorized by hospital, specialty, and nursing unit resulted in an oblique solution comprised of two categories. The two categories together with their covariance term accounted for 72.6% of the total variance in nursing groups. Of this 72.6%, 33.6% of the variance was attributable to the first category, 27.2% to the second category, and 11.8% to the covariance between Categories I and II. Category I was largely comprised of pediatric, obstetrical, psychiatric, surgical, and intensive care nursing groups. Category II was comprised mainly of

medical, auxiliary, acute cancer, and rehabilitative nursing groups.

Generally Category I is made up of those nursing groups oriented more toward cure goals, whereas Category II describes nursing groups oriented more toward nursing care goals. The clustering of nursing groups within categories on the apparent presence of an underlying care and cure dichotomy was for the most part expected and interpretable from a nursing perspective. Nursing practice has often been described on the basis of care and cure practices (Mauksch, 1966, p. 112). Care and cure practices generally call for different emphases in orientations, skills, and behaviours of nurses. It was reasonable that those nursing groups oriented more toward socio-psychological care practices (medical, auxiliary, acute cancer, and rehabilitative nursing groups) would group together on the basis of underlying similarities in commitment as a whole. Similarly, it was reasonable that those nursing groups oriented more toward curative practices (surgical, intensive care, pediatric, obstetrical, and psychiatric nursing groups) would cluster together on the basis of relative homogeneity in commitment as a whole.

Although the two category Q analysis solution indicated differences among nursing groups on the basis of underlying similarities in commitment as a whole, these differences must be interpreted in light of the .78 correlation between Categories I and II. The relative homogeneity in work experience and educational background of nursing personnel as compared with health care workers and employees in other fields likely serves to produce high underlying similarities in their commitment. In this regard, some investigators have noted the importance of formalized educational processes in the formation and maintenance of professional

orientations (Glaser, 1963; Hagstrom, 1965; Miller & Wagner, 1971; Wilensky, 1964). Others, however, have stressed the impact of organizational structure and its outcome variables on professional values (Glaser, 1963; Hall, 1967). Miller and Wagner, for instance, concluded that "the organizational context in which the professional performs his work does affect his commitment to professional and organizational values" (1971, p. 161). The findings of the current investigation suggest support for both preceding viewpoints. The high correlation between Categories I and II implies similarities among nurses in terms of commitment as a whole due to homogeneity in educational backgrounds. On the other hand, the separation of nursing groups into two categories independent of employing hospital suggests the impact of organizational context on commitment.

Through paired comparisons scaling, relative commitment to various facets of the nursing job was identified for each of the nine specialty groups. This provided empirical support for Marks' notion of relative commitment and his description of one type of commitment system, the system of over- and under-commitment (1977, p. 931).

The relative importance of various stimuli pertinent to dimensions of relative commitment was calculated in terms of the total population of nurses and the population of nurses in each specialty area participating. For all nurses, nursing peers, physicians, and families were ordered from highest to lowest in importance to patient care on the nursing unit. In terms of importance to nursing practice, clinical specialty, nursing unit, and hospital were ordered highest to lowest respectively. Nursing tasks in order of importance to patient care from

highest to lowest were emotional caring, carrying out of medical orders, observation and monitoring, physical comforting, and patient-family teaching respectively. Co-ordinative mechanisms were ordered from highest to lowest respectively as follows: verbal feedback, written feedback, nursing care plans, and patient care conferences.

When relative commitment was analyzed as a function of current area of clinical specialization, little variance in the ordering of persons in the work place and employment areas was found among the nine specialty groups. In contrast, systematic differences among nursing specialties increased in terms of the number of different orderings of co-ordinative mechanisms and nursing tasks. Specifically, two different orderings of persons in the work place and employment areas were identified for the nine types of nurses, whereas six different orderings of nursing tasks and three of co-ordinative mechanisms were identified. Given that clinical specialty areas can be distinguished in terms of patient population, task specialization, and consequently nursing care priorities, the relatively high variance in orderings of nursing tasks across the nine specialties was expected.

In general, the scales for specialty groups met with a priori expectations. For instance, in terms of relative commitment to persons in the work place, nurses were ordered highest followed by physicians and patients' families for all specialty groups with the exception of pediatric and auxiliary nurses. For these two specialty groups, nurses were ordered highest followed by patients' families and physicians. These different orderings were viewed as a result of pediatric and auxiliary nurses' greater reliance upon families in the planning and

provision of patient care. The ordering of employment areas (nursing unit, specialty, and hospital) was identical across all nursing groups with the exception of acute cancer nurses. The nursing unit was ordered highest followed by the hospital and nursing specialty for acute cancer nurses, whereas for all other nursing groups the nursing specialty was ordered highest followed by the nursing unit and hospital. The different ordering of employment areas for acute cancer nurses was partially explained by the uniqueness of the specialty hospital in which these nurses practice; for these nurses the nursing unit *is* the specialty as there is no other place in which practice of the specialty can be carried out. The six different orderings of nursing tasks across the nine specialty groups tended to mirror the differing priorities for patient care on nursing units. For example, intensive care and surgical nurses ordered observation and monitoring highest followed by the carrying out of medical orders. Given the greater instability of patients and higher probability of patho-physiological crises in these two specialties this finding was logical. In contrast, these two nursing tasks were ordered relatively low for auxiliary nurses, marking the relative absence of patho-physiological crises and medical orders in this patient setting. The three different orderings of co-ordinative mechanisms across the nine nursing groups appeared generally congruent with the technology and environment of the nursing specialty. For example, patient care conferences were ranked higher in importance to patient care for pediatric, rehabilitative, and acute cancer nurses than for the six other specialties. Each of these nursing areas is characterized by a greater diversity of health professionals. The higher ordering of patient care

conferences by pediatric, rehabilitative, and acute cancer nurses is likely, then, a reflection of their greater interdependency with other health workers in the meeting of patient care goals.

Systematic differences in the ordering of stimuli among nurses categorized by specialty suggest that relative commitment varies to some extent with specialization and work pressures peculiar to specialization. This finding is logical from a nursing perspective as priorities for patient care are expected to differ among clinical specialties in line with sub-unit patient care goals, medical technologies, and disease specialization. In terms of Marks' notion of relative commitment, allotments of time and energy by nurses are expected to vary with work pressures peculiar to the type of nursing provided.

Discussion of the Construct Validity of the Measure

Criteria for assessing construct validity in this investigation were convergence and discriminability of the measures. The following discussion focuses on suggestive rather than evidencial indicators of contruct validity.

The degree to which the factor solution reflected hypothesized dimensions of commitment connotes construct validity in the measurement instrument. Four of nine hypothesized factors appeared in the orthogonal solution, while elements of the remaining five appeared in each of the three remaining factors. This suggested that to some degree the questionnaire measured what it was originally designed to measure.

Factor analytic results indicated some degree of convergence of the measures. Items intended as indicators of the same attributes

correlated and loaded highly on the same factor. For instance, items 1, 2, 3 and 4, were intended to be indicators of peer commitment and loaded highly on the same factor. Another indicator of convergence is the extent to which the factor solution approaches simple structure. As shown by the factor solution in Table I, there were 17 items which loaded at .40 or greater on any one factor yet at .20 or below on each other factor. Furthermore, each row of the factor matrix had at least one loading approaching zero (+ or - .05) and each column of the factor matrix had at least seven loadings approaching zero. These indicators are both suggestive of construct validity. The factor solution explained 49.8% of the total variance in nurse responses, indicating that half the measurement in the instrument was concerned with the commitment construct. Half the variance in responses, however, was unexplained and as such is defined as error. While the seven factor solution represented an 80% data reduction (34 variables to 7 factors), one of the purposes for using factor analyses, a stronger solution would have explained more total variance in responses with fewer factors.

Further evidence of construct validity is the empirical support of a priori differences (Cronbach & Meehl, 1955, p. 287). Differences in mean factor scores and scaling of stimuli among nurses categorized by specialty was suggestive of construct validity to the extent that these differences were expected a priori. Although little empirical evidence prior to the current investigation had focused upon differences in commitment among nurses, the body of organizational and nursing literature provided a basis for anticipated differences among nursing groups.

The two categories of nursing groups identified through

application of Q technique was suggestive of convergent validity. Specifically, a majority of nursing groups of the same type loading on the same factor independent of hospital origin indicated some degree of convergence validity of the measure. A priori differences in commitment as a whole were expected according to the nature of nurses' work and the characteristics of the patient population requiring service. In this regard, the apparent categorization of nursing groups on an underlying basis of predominant "care" and "cure" orientations was in keeping with expectations and nursing practice. The proportion of variance explained by the two categories and the covariance term was 72.6% which was relatively high. Results from the application of Q technique must be interpreted cautiously, however, as a greater number of variables (nursing groups) than subjects (items) may give way to linear dependencies. Further, a Q technique solution based on mean responses may not parallel a Q technique solution based on individual nurse responses, although factor solutions based on mean and individual responses were found highly similar.

Major Limitations

Two major limitations are evident from the results of this research. First, the finding of a seven factor solution which explains only 50% of the total variance in nurse responses to 34 items renders the task of interpreting the data more difficult and the meaningfulness of the interpretation more suspect. The remaining unexplained proportion of variance must be considered error. While the inability to explain more total variance may be a result of poor measurement, it is also indicative

of the measurement problem inherent in dealing with a construct such as commitment, a concept which lacks clear demarcation of its limits. Given the current stage of empirical research concerned with measurement of this construct, accounting for 50% of the total variance was considered acceptable.

Second, no attempt was made in this research to identify socio-demographic variables which might have accounted for the relatively high percentage of unexplained variance. In particular, level of nursing education was not controlled for in the empirical analyses. As the formal tasks and responsibilities of registered nurses and registered nursing assistants are considerably different, it is conceivable that commitment could vary in relation to differences in these tasks and responsibilities. Types of commitment might well differ for these two nursing groups.

Major Conclusions

Conclusions based on the preceding discussion should be interpreted in terms of the tenuous evidence of construct validity of the measures used and limitations previously discussed.

Through factor analytic procedures seven orthogonal commitment factors were identified for nurses participating in this study. This finding suggests that commitment, in terms of the measures used, is a complex construct which at this exploratory stage must be tailored for specific sample groups in relation to known or hypothetical commitment dimensions. Measurement of organizational commitment has tended to be in global terms without regard for inherent differences in samples studied.

In view of the seven factor solution for nurses in this investigation, the use of a global measure of organizational commitment would have been questionable. While the seven factor solution suggests the complex multi-dimensional nature of commitment, conclusive evidence of its uni- or multi-dimensionality in terms of a stronger solution accounting for more total variance with fewer factors was not forthcoming.

Differences among specialty groups in terms of mean factor scores and in the ordering of various facets of the nursing job in relation to their importance to patient care led to the conclusion that level of commitment varies with specialization. From a nursing perspective this appears to make sense as priorities for patient care tend to differ among clinical specialties in line with subunit patient care goals, disease specialization, and medical technologies.

The correlation between Categories I and II found through application of Q technique was .78. This finding indicated that the respondents were fairly homogeneous in terms of underlying similarities in commitment as a whole. Based on these nurses' relatively common educational and organizational socialization experiences compared with other health care workers this finding was anticipated. Nevertheless, the fairly clear cut categorization of nursing groups within one or the other category indicated that differences in overall commitment do exist between nursing groups. Since the majority of nursing groups oriented more toward socio-psychological aspects of illness (medical, auxiliary, acute cancer, and rehabilitative nursing groups) grouped within one category and the majority of nursing specialty groups oriented more toward patho-physiological aspects of illness (surgical, intensive care,

obstetrical, pediatric, and psychiatric nursing groups) grouped in another, the categories themselves were notable due to an apparent underlying dichotomy of "care" and "cure". This finding together with the .78 correlation between Categories I and II led to the conclusion that care and cure orientations, while different, are less than independent of one another. The identification of two categories of nurses may be a consequence of the extent to which care and cure practices are intercorrelated among nursing specialties.

In the application of Q technique, the 71 nursing groups did not cluster within categories according to hospital origin. It may be concluded that for the sample of nurse respondents studied the employing agency has little or no effect on variations in commitment as a whole. It is also interesting to note that the hospital did not emerge as a commitment factor for these nurses and through paired comparisons scaling was ordered least important to nursing practice compared with the nursing unit and clinical specialty. These findings would seem to imply that the hospital does not play an important role in the commitment system of these nurses. If the more global measure of organizational commitment in terms of the hospital had been used for these nurses, its applicability would have been highly questionable.

Although findings were suggestive of some degree of construct validity as earlier discussed, lack of stronger evidence of construct validity points to the need for further refinement of the measures of commitment used.

Implications for Future Research

As a result of the findings of this investigation it is suggested that the construct validity of the measures be further assessed following refinement of items. This could be accomplished through comparison of the test with either subjective or independent measures of the test content or expected outcome. For example, expected outcomes of high commitment might be low absenteeism or low turnover rates. If attitudes and behaviours are both conceptualized as measures of the same commitment process, participant observation studies could be useful in directly observing behaviour of individual nurses in relation to components of commitment investigated. This could provide a potential means of measuring behavioural commitment of nurses.

Value might also be obtained in investigating differences in commitment among nurses in varying specialty areas and evaluating these differences in light of patient care needs specific to clinical specialty areas and patient outcomes. Comparative studies of commitment among differing health professionals may also prove an interesting area for further research.

Future research focusing on nursing personnel might be directed at the study of relationships among dimensions of commitment and antecedent and outcome variables. In addition, variables such as job satisfaction, length of organizational tenure, age, and size and technology of organizational sub-units might be used to further evaluate the discriminant validity of the commitment measures used in this investigation.

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APPENDICES

Appendix A

Questionnaire Used in This Investigation

This questionnaire is part of a study attempting to investigate how nurses think and feel about their place of work, the people with whom they work, and the work they do. You are one of several nurses from your hospital randomly selected to participate in this study.

Please answer EVERY statement by placing a check (✓) in the appropriate box. If you find it hard to make up your mind, choose the answer which most closely represents your opinion.

The final value of the study will depend upon the frankness and care with which you respond to the questions. There are no right or wrong answers. The main idea is for you to respond to the questions the way you feel--the way things seem to you personally.

Your individual answers are *completely confidential*. To assure the confidentiality of your answers please detach this page from the questionnaire. When you have filled in your answers, place the questionnaire in the accompanying envelope and seal it closed.

Please return the questionnaire by June 16th in the attached envelope to the nursing service office or mail it to the return address on the envelope.

Thank you for your assistance.

Janet Levesque, B.Sc.N.
Division of Health Services Administration
University of Alberta

Code No._____

YOUR BACKGROUND

Please check one answer to each of the following questions.

A. In what nursing specialty do you currently work?

- ☐ surgical nursing
- ☐ medical nursing
- ☐ auxiliary nursing
- ☐ pediatric nursing
- ☐ obstetrical nursing
- ☐ ICU nursing
- ☐ rehabilitative nursing
- ☐ psychiatric nursing
- ☐ acute cancer nursing

B. How many years have you worked in nursing (not including schooling)?

- ☐ less than 1 year
- ☐ 1 year-2 years 11 months
- ☐ 3 years-5 years 11 months
- ☐ 6 years-8 years 11 months
- ☐ 9 years or more

C. How long have you worked on this unit? *(please specify)*_____.

How long have you worked in this hospital? *(please specify)*_____.

D. At present, do you work full time?

- ☐ yes
- ☐ no

E. What level of nursing education have you completed? *(Check more than one if applicable.)*

- ☐ bachelor's degree
- ☐ one year post-basic diploma
- ☐ clinical post-graduate course
- ☐ RN diploma
- ☐ RPN diploma
- ☐ CNA certificate
- ☐ nursing orderly certificate
- ☐ other *(specify)*_____

F. What is your age?

- ☐ less than 22 years
- ☐ 22 years-28 years
- ☐ 29 years-35 years
- ☐ 36 years-42 years
- ☐ 43 years-49 years
- ☐ 50 years-56 years
- ☐ 57 years or more

G. Are you the primary income earner for yourself or your family?

- ☐ yes
- ☐ no

H. Do you have dependents residing in your home (e.g., children, retired persons)?

- ☐ yes
- ☐ no

ABOUT THE PEOPLE YOU WORK WITH

Beside each of the following statements please indicate your answer with a check (√) in the box in the appropriate column.

	strongly agree	agree	disagree	strongly disagree
1. I enjoy sharing coffee and lunch breaks with nurses on my unit.	☐	☐	☐	☐
2. Nurses on my unit encourage each other to work together as a team.	☐	☐	☐	☐
3. Information about important events or situations is shared among the nurses on my unit.	☐	☐	☐	☐
4. Nurses on my unit provide each other with the help they need to complete their work on time.	☐	☐	☐	☐
5. Occasionally I spend ½ hour overtime on a task (e.g., stocking supplies) so as to not leave it for the nurses on the next shift.	☐	☐	☐	☐
6. I like most physicians associated with this nursing unit.	☐	☐	☐	☐
7. I respect most physicians associated with this nursing unit.	☐	☐	☐	☐
8. It means more to me that physicians, rather than the nurses on my unit, recognize the work I do well.	☐	☐	☐	☐
9. I belong to a team of physicians and nurses who support one another.	☐	☐	☐	☐
10. I enjoy assisting doctors with medical procedures.	☐	☐	☐	☐
11. I take my patients' problems home with me.	☐	☐	☐	☐
12. I take the problems of my patients' families home with me.	☐	☐	☐	☐
13. I like to get to know my patients personally.	☐	☐	☐	☐
14. Nurses on this unit involve patients in making decisions about their nursing care.	☐	☐	☐	☐
15. Nurses are responsible for communicating the concerns of patients to physicians or other health workers.	☐	☐	☐	☐
16. Nurses are responsible for communicating the concerns of patients' families to physicians or other health workers.	☐	☐	☐	☐
17. Seeing that requests for information from patients are met is a nurse's responsibility.	☐	☐	☐	☐
18. Seeing that requests for information from patients' families are met is a nurse's responsibility.	☐	☐	☐	☐

For each of the following pairs of people, check (√) one group which you believe is more important to patient care on this nursing unit.

19. ☐ nurses on the unit
☐ physicians

20. ☐ families of patients
☐ nurses on the unit

21. ☐ physicians
☐ families of patients

ABOUT THE PLACE WHERE YOU WORK

22. Do you want to continue nursing full time during the next 5 years? *(check one)*

☐ yes
☐ no
☐ undecided

23. Would you continue nursing if you did not need the money? *(check one)*

☐ yes
☐ no
☐ undecided

Beside each of the following statements please indicate your answer with a check (√) in the box in the appropriate column.

	very likely	likely	unlikely	very unlikely
24. How likely would you be to continue nursing work if offered a non-nursing job for the same pay?	☐	☐	☐	☐
25. If offered a job in the same nursing specialty *but* in a different hospital, would you accept the new job?	☐	☐	☐	☐
26. Would you choose to return to a job in this hospital if you had to stop nursing for a while?	☐	☐	☐	☐
27. If offered a job in a different nursing specialty in the hospital in which you now work, would you change specialties?	☐	☐	☐	☐
28. Would you choose to return to a job in the same nursing specialty if you had to stop nursing for a while?	☐	☐	☐	☐
29. If offered a job in the same nursing specialty in the hospital in which you now work, *but* on a different nursing unit, would you accept the job on the new unit?	☐	☐	☐	☐
30. Would you choose to return to a job on the nursing unit on which you now work if you had to stop nursing for a while?	☐	☐	☐	☐

Beside each of the following statements please indicate your answer with a check (√) in the box in the appropriate column.

	strongly agree	agree	disagree	strongly disagree
31. I would advise another nurse to work on this nursing unit.	☐	☐	☐	☐
32. My loyalty is to nursing, not my nursing unit.	☐	☐	☐	☐
33. My concern is with getting *my* work done, rather than the work to be done by the whole unit.	☐	☐	☐	☐
34. I feel a part of my nursing unit.	☐	☐	☐	☐
35. I prefer working with the type of doctors associated with this nursing unit (as opposed to other types of doctors).	☐	☐	☐	☐
36. I prefer nursing patients having prognoses similar to those of patients on this nursing unit (as opposed to patients having other prognoses).	☐	☐	☐	☐
37. I prefer nursing patients having health problems similar to those of patients on this nursing unit (as opposed to patients having other health problems).	☐	☐	☐	☐
38. I prefer nursing patients of ages similar to the ages of patients on this nursing unit (as opposed to patients in other age groups).	☐	☐	☐	☐

For each of the following <u>pairs of employment areas</u>, check (√) the <u>one</u> employment area <u>more important</u> to you in terms of your nursing practice.

39. ☐ the nursing unit on which you work

    ☐ the nursing specialty in which you work, e.g., medical nursing

40. ☐ the hospital in which you work

    ☐ the nursing unit on which you work

41. ☐ the hospital in which you work

    ☐ the nursing specialty in which you work, e.g., medical nursing

ABOUT YOUR JOB

For each of the following pairs of nursing activities, (√) the one activity which you believe is more important to patient care on this nursing unit.

42. ☐ providing physical comfort, e.g., bathing, feeding, elimination
☐ providing emotional comfort, e.g., when a patient is upset

43. ☐ providing physical comfort, e.g., bathing, feeding, elimination
☐ carrying out medical orders, e.g., treatments, drug administration

44. ☐ observing/monitoring patients' status, e.g., input/output, vital signs
☐ providing physical comfort, e.g., bathing, feeding, elimination

45. ☐ carrying out medical orders, e.g., treatments, drug administration
☐ observing/monitoring patients' status, e.g., input/output, vital signs

46. ☐ teaching patients/families
☐ carrying out medical orders, e.g., treatments, drug administration

47. ☐ providing physical comfort, e.g., bathing, feeding, elimination
☐ teaching patients/families

48. ☐ carrying out medical orders, e.g., treatments, drug administration
☐ providing emotional comfort, e.g., when a patient is upset

49. ☐ providing emotional comfort, e.g., when a patient is upset
☐ observing/monitoring patients' status, e.g., input/output, vital signs

50. ☐ observing/monitoring patients' status, e.g., input/output, vital signs
☐ teaching patients/families

51. ☐ teaching patients/families
☐ providing emotional comfort, e.g., when a patient is upset

For each of the following pairs of nursing functions, check (√) the one function which you believe is more important to patient care on this nursing unit.

52. ☐ attending patient care conferences
☐ developing nursing care plans

53. ☐ attending patient care conferences
☐ providing and receiving feedback through written records, e.g., patient charts, kardex

54. ☐ attending patient care conferences
☐ providing/receiving feedback through verbal reports, e.g., spontaneous feedback from physicians, nurses, patients, families; end-of-shift report

55. ☐ developing nursing care plans
☐ providing/receiving feedback through written records, e.g., patient charts, kardex

56. ☐ developing nursing care plans
☐ providing/receiving feedback through verbal reports, e.g., spontaneous feedback from physicians, nurses, patients, families; end-of-shift report

57. ☐ providing/receiving feedback through written records, e.g., patient charts, kardex
☐ providing/receiving feedback through verbal reports, e.g., spontaneous feedback from physicians, nurses, patients, families; end-of-shift report

Beside each of the following statements please indicate your answer with a check (√) in the box in the appropriate column.

	strongly agree	agree	disagree	strongly disagree
58. Meeting the psychosocial needs of patients becomes of secondary importance when pressed for time.	☐	☐	☐	☐
59. Providing psychosocial care is more important than carrying out nursing procedures and techniques on this unit.	☐	☐	☐	☐
60. Feedback from physicians is more important to me in my job than feedback from the nurses on my unit.	☐	☐	☐	☐
61. Feedback from patients or families is more important to me in my job than feedback from physicians.	☐	☐	☐	☐
62. Feedback from nurses on my unit is more important to me in my job than feedback from patients or families.	☐	☐	☐	☐

ABOUT THE NURSING OCCUPATION

63. Nurses should place loyalty to the profession above loyalty to the hospital.	☐	☐	☐	☐
64. The nursing profession should have more control over nursing practice in hospitals.	☐	☐	☐	☐
65. If membership in my nursing association did not benefit me in terms of material rewards, I would not belong.	☐	☐	☐	☐

66. Would you attend nursing inservice education if it happened to be scheduled on your day off? *(check one)*

- ☐ very likely
- ☐ likely
- ☐ unlikely
- ☐ very unlikely

67. Do you plan to further your nursing education in the next 5 years? *(check one)*

- ☐ yes
- ☐ no
- ☐ undecided

THANK YOU FOR YOUR ASSISTANCE!

NOTE: DETACH INSTRUCTION SHEET AND PLACE QUESTIONNAIRE IN SEALED ENVELOPE

Appendix B

Factor Analysis-Orthogonal Solution Varimax Rotation Based on the Fully Complete Responses of 425 Nurses

Table A

Factor Analysis - Orthogonal Solution Varimax Rotation

Item Number	Item Content	Communalities	Factors[a]						
			I	II	III	IV	V	VI	VII
1	Peer socializing	.339	.500	.094	.273	.055	.051	.002	-.018
2	Peer support	.501	.702	.075	.012	.046	.002	-.009	-.026
3	Peer communication	.521	.694	.144	.005	.053	.103	.040	.064
4	Peer teamwork	.608	.759	-.011	.076	-.120	-.085	.011	-.067
31	Unit support	.407	.543	.022	-.003	.317	.106	.014	.001
34	Unit membership	.460	.578	.028	.270	.142	.145	.055	-.093
30	Unit preference over time	.591	.429	.247	-.081	.535	.188	-.132	.030
28	Specialty preference over time	.613	.254	.494	-.024	.533	.103	-.030	.092
27	Specialty versus other specialties	.392	.238	.496	-.075	.089	-.020	-.314	.050
35	Unit physicians preferred	.357	.045	.501	.095	-.087	.277	.090	-.041
36	Patient prognoses preferred	.657	.002	.798	.019	-.039	-.056	.104	-.069
37	Patient health problems preferred	.730	.021	.852	.012	.012	-.050	.023	.009
38	Patient age groups preferred	.574	-.069	.747	.022	.058	-.077	.036	.005
15	Patient representative	.558	.218	.025	.688	-.096	.141	.044	-.068
16	Family representative	.564	.162	.006	.713	-.108	.104	.045	.075
17	Patient information	.623	.101	.027	.770	.162	-.003	.010	.045
18	Family information	.625	-.025	.018	.743	.207	.034	.002	.168
23	Nursing without economic need	.455	.055	-.042	.107	.570	.019	.336	.024
24	Nursing versus other jobs	.198	.031	-.004	.126	.411	.077	.072	.026
26	Hospital preference over time	.488	.158	.016	.011	.600	.253	-.143	-.135
63	Loyalty to nursing profession	.450	.124	.167	.075	-.424	.091	.462	-.017
6	Physician liking	.599	.049	.029	.044	.117	.756	-.001	.088
7	Physician respect	.653	.046	.076	.101	.117	.782	.091	-.037
9	Physician-nurse teamwork	.386	.364	-.029	-.036	.113	.477	-.100	.015
10	Physician assistance	.408	.004	-.081	.135	.021	.610	.102	-.003
64	Control by nursing profession	.335	.132	.129	.179	-.290	.144	.400	.068
66	Nursing inservice attendance	.510	.120	-.149	-.041	.271	.126	.576	.223
67	Plans for formal nursing education	.443	.024	-.062	.042	.079	-.056	.643	.118
25	Hospital versus other hospitals	.335	.236	-.075	-.096	.058	.228	-.454	.053
32	Loyalty to nursing unit	.271	.012	-.091	.041	.004	-.144	-.482	.086
22	Desire for nursing in future	.361	.011	.023	-.079	.366	-.004	.425	-.201
11	Concern for patients	.819	-.094	.035	.047	-.023	-.013	.007	.898
12	Concern for patients' families	.829	-.117	.017	.040	-.013	.022	-.008	.902
13	Personal patient contact	.336	.283	-.076	.255	-.060	.067	.084	.414
		16.99	3.19	2.84	2.49	2.20	2.20	2.06	2.01

Note. This solution is based on the completed questionnaires of 425 respondents. Items have been reordered from the original questionnaire for ease of viewing loadings of .40 and greater on a factor.

[a]Loadings of .40 and greater are underlined.

Appendix C

Mean Factor Scores Based on Cases With No Missing Data

Table B

Mean Factor Scores Based on Cases With

No Missing Data

Specialty	Factors			
	Nursing Unit Peers	Clinical Specialty	Advocacy Role	Longterm Job Continuance
PAEDS (44)	-.349	.276	-.117	-.154
OBS (45)	-.062	.591	.072	-.050
REHAB (54)	.292	-.389	-.110	-.141
ICU (54)	.091	.223	-.038	.186
AUX (45)	.124	-.624	.269	.141
PSYCH (52)	.091	.399	-.169	-.085
SURG (53)	-.224	.243	-.189	.228
MED (46)	-.271	-.315	.271	.037
CANCER (32)	.360	-.650	.129	-.284

Specialty	Factors cont.		
	Physicians	Profession	Patient-Family Involvement
PAEDS (44)	.224	.093	-.007
OBS (45)	-.061	-.209	-.218
REHAB (54)	-.102	.367	-.143
ICU (54)	.181	-.037	.236
AUX (45)	.012	.212	-.173
PSYCH (52)	-.190	-.076	.008
SURG (53)	-.120	-.081	.034
MED (46)	.013	-.335	-.292
CANCER (32)	.115	.050	.755

Note. Enclosed within brackets are the number of questionnaires in each specialty on which scores were based.

Appendix D

Graphic Presentation of Differences

in Mean Factor Scores

Factor I - Nursing Unit Peers

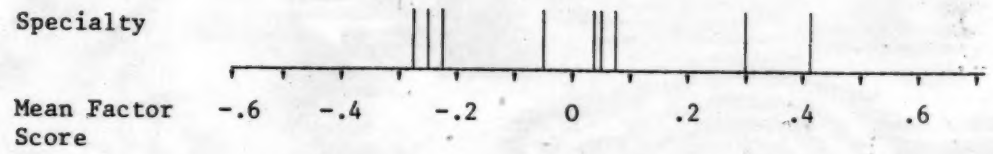

Figure A: Mean factor scores of nurses grouped by specialty in relation to the Peer factor. From left to right: pediatric, medical, surgical, obstetrical, intensive care, auxiliary, psychiatric, rehabilitative, and acute cancer nurses.

Factor II - Clinical Specialty

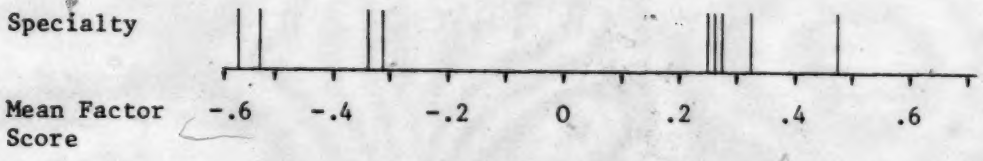

Figure B: Mean factor scores of nurses grouped by specialty in relation to the Clinical Specialty factor. From left to right: auxiliary, acute cancer, rehabilitative, medical, intensive care, pediatric, surgical, psychiatric, and obstetrical nurses.

Factor III - Advocacy Role

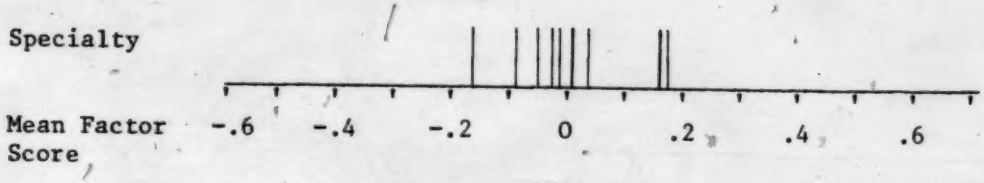

Figure C: Mean factor scores of nurses grouped by specialty in relation to the Advocacy Role factor. From left to right: psychiatric, rehabilitative, surgical, obstetrical, medical, auxiliary, acute cancer, intensive care, and pediatric nurses.

Factor IV - Longterm Job Continuance

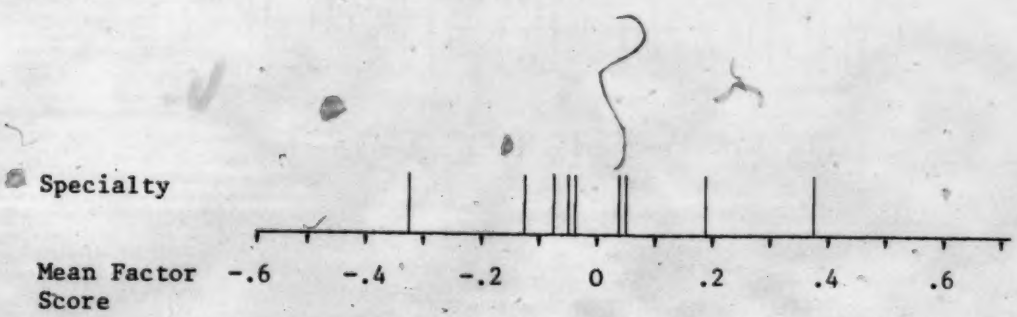

Figure D: Mean factor scores of nurses grouped by specialty in relation to the Longterm Job Continuance factor. From left to right: medical, surgical, obstetrical, intensive care, psychiatric, acute cancer, pediatric, auxiliary, and rehabilitative nurses.

Factor V - Physicians

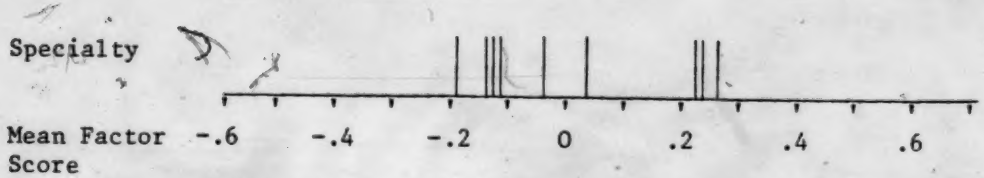

Figure E: Mean factor scores of nurses grouped by specialty in relation to the Physician factor. From left to right: psychiatric, pediatric, surgical, rehabilitative, intensive care, obstetrical, auxiliary, acute cancer, and medical nurses.

Factor VI - Profession

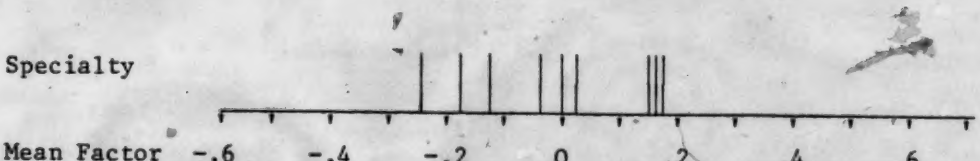

Figure F: Mean factor scores of nurses grouped by specialty in relation to the Profession factor. From left to right: acute cancer, rehabilitative, pediatric, psychiatric, medical, obstetrical, intensive care, auxiliary, and surgical nurses.

Factor VII - Patient-Family Involvement

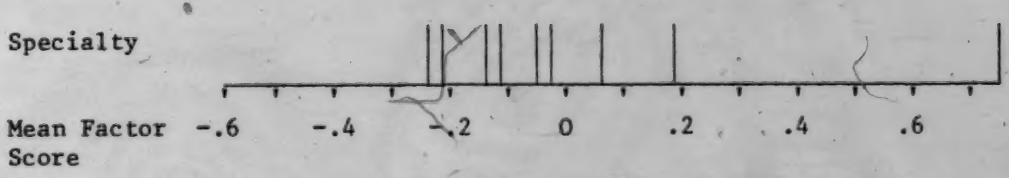

Figure G: Mean factor scores of nurses grouped by specialty in relation to the Patient-Family Involvement factor. From left to right: medical, obstetrical, rehabilitative, auxiliary, surgical, psychiatric, pediatric, intensive care, and acute cancer nurses.

Appendix E

Specialty Group Profile in Terms of the Relative Position of the Specialty Group on Each Factor

Table C

Specialty Group Profile in Terms of the Relative Position of the Specialty Group on Each Factor

Factors	Specialty Group								
	PAEDS	OBS	REHAB	ICU	AUX	PSYCH	SURG	MED	CANCER
Nursing Unit Peers	Low	Moderate	High	Moderate	Moderate	Moderate	Low	Low	High
Clinical Specialty	High	High	Low	High	Low	High	High	Low	Low
Advocacy Role	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate
Long Term Job Continuance	Moderate	Moderate	High	Moderate	Moderate	Moderate	Moderate	Low	Moderate
Physicians	Moderate	Moderate	Moderate	Moderate	High	Moderate	Moderate	High	High
Profession	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Moderate	Low
Patient-Family Involvement	Moderate	Low	Moderate	Moderate	Moderate	Moderate	Moderate	Low	High

Note. Mean factor scores of specialty groups were classified as low, moderate, or high as follows: low, > 2 σ below zero; moderate, + or - 2 σ of zero; high, > 2 σ above zero.

Appendix F

Correlations Among Oblique Primary Factors Based on the Mean Responses of 71 Nursing Groups

Table D

Factor Analysis of Mean Responses of 71 Nursing Groups--Correlations Among Oblique Primary Factors

Factor	I	II	III	IV	V	VI	VII
I	1.000						
II	.0158	1.000					
III	-.0580	-.0669	1.000				
IV	.0365	-.0172	.0407	1.000			
V	.1745	-.1347	.1009	.0764	1.000		
VI	.0452	-.0424	.0175	-.0171	.0494	1.000	
VII	-.0611	-.0074	.1160	-.0839	-.0449	.0394	1.000